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Bob Cooper's

MARCH 15 1999

SatFACTS

MONTHLY



Reporting on "The World" of satellite television in the Pacific and Asia

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YOU
Do Not Want!**

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Test Report**

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Bureaucracy
Run Amok?**

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- ✓ Cable TV Connection

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This publication is dedicated to the premise that as we enter the 21st century, ancient 20th century notions concerning borders and boundaries no longer define a person's horizon. In the air, all around you, are microwave signals carrying messages of entertainment, information and education.

These messages are available to anyone willing to install the appropriate receiving equipment and, where applicable, pay a monthly or annual fee to receive the content of these messages in the privacy of their own home. Welcome to the 21st century - a world without borders, a world without boundaries.

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COOP'S COMMENT

How do you determine that a particular home, one home, located anyplace in Australia is unable to receive "adequate" off-air television from the ABC, SBS, 7, 9 and 10 networks?

When an entire community or region is deemed "inadequately served" the A.B.A. routinely grants a retransmission licence authorising a new TV transmitter. In theory, one home could be granted a licence to construct a TV transmitter as well but the economics argue against it. Last month on this page I suggested that by the essence of a December ruling, the A.B.A. was saying that individual homes could be allowed to receive a replacement for ailing terrestrial service through the Aurora project. Out west, GWN and WIN now provide combined programming from the national 7, 9 and 10 networks while in central and east, Imparja and Seven Central offer the same service. Yes, it would be better if satellite viewers had 3 satellite services - one each for 7, 9 and 10 so that 9 and 10 programmes do not have to be "cherry picked" (thus leaving a portion of both 9 and 10 schedules off satellite). And perhaps, in time, that will happen.

The A.B.A. however is having a difficult time deciding how they should "licence" individual homes. My suggestion is that they don't bother. Let's look at the economics here.

A home says it cannot receive 7, 9 and 10 from local or regional TV transmitters. It also says it is willing to invest \$1,500 or more to install an 80cm dish, LNB, UEC or Panasonic IRD and accessories. What it wants from the A.B.A. is "permission" to do so. Why permission? Because the home is located inside of a terrestrial broadcaster's "predicted service contour." The PSC is the circle drawn around a TV transmitter and the size of the circle is determined by formulae that consider the height of the transmitting antenna above average terrain, the power of the transmitter, and the terrestrial operating frequency. What the formula ignores - in some cases totally - is the negative effects of terrain. The formula assumes that from the TV transmitting mast there is "radio line of sight" to every point inside of the circle. Radio line of sight is visual line of sight (how far you can see) plus 1/3rd more. If you could "see" 37.60 miles from the top of a TV mast, the radio line of sight is 50 miles. If 30 miles out a hill protrudes 600 feet above average terrain, visual (and radio) line of sight is lost. Anyone living behind that hill gets no reception, or very poor reception (see detailed explanation, p. 20 here).

The A.B.A. wants to protect the tidy little paper models of predicted coverage zones, does not want to admit their models are not entirely correct and sees "individual licences for satellite reception" a deep pit with no bottom. The answer is no licence. If a home owner could install a 50 foot mast and spend \$400 on a top grade aerial and masthead amplifier to achieve acceptable terrestrial reception, why in the world would he elect to spend \$1,500 or more to install a satellite system for essentially the same reception service? *It makes no sense.* Anyone who says they don't have acceptable TV, and is willing to put \$1,500 where their mouth is to get good TV should be allowed to do so. I can see no reason in this scenario for the A.B.A. to inject its bureaucracy subjecting people to endless paperwork and months of delay to process paperwork which is not justified in the first place.

NSW distributor Euan Moffitt agrees with us, but thinks we have to "play the A.B.A. game" at least initially. How he proposes to do this, and why you as a dealer need to get behind his efforts is spelled out on page 32 here.

In Volume 5 ♦ Number 55

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(IRD power supplies) - p. 22; SatFACTS Digital Watch -p. 24;
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-ON THE COVER-

Surprise. It is 1999 and the well equipped holiday camper now carries along a portable satellite system to attach to the nearest support "post." (Photo by Steve Jepson)



March 15, 1999



Memory Loss

"I do not know where you got the idea the UEC 642 loses its 'last channel viewed' or 'last channel stored' memory. When the mains power is cut, on repowering the unit will return to the last channel (either radio or TV) directly after it loads the NIT. If it loses power when in standby, it returns to standby and on full power-up returns to the channel it was placed in standby on. This memory seems to be virtually indefinite - a friend left his unit off for one week and on power-up, it came back on Imparja which is where he left it."

I. Fisher, NSW

We received several notes about this. The test unit we received last May would return to the first (#1) channel loaded under two conditions - when the power was cut to the unit, or, if the satellite signal disappeared (rain fade) and then came back. We can appreciate this problem has been solved with later units.

Unhappy with NBC

"The audio from the NBC shows - such as Jay Leno, Conan O'Brien, on CNBC is a disgrace to NBC. It seems that virtually every NBC (USA) network programme carried by CNBC or on National Geographic Asia has audio problems. You turn up the volume for the Today Show, only to be driven out of the house when they break for a promo for National Geographic. Is the Singapore engineering for NBC sloppy or just don't care? Are they trying to tell viewers they are not really interested in carrying programming from NBC and this is their way of showing it? About the only NBC show they seem to get right (with volume levels that match the programmes around it and the promos inside the show) is the NBC Nightly News (on National Geographic) and Meet the Press on CNBC. And while I am complaining, has anyone else noticed how bad the colour balance is on the BBC service on PAS-2 - California Bouquet. Yes, I appreciate they put it back there since the 3743/1407Vt frequency was intolerable. But - in the process, there are saturated brown and red faces. I look at it and feel 'Yuk!'."

Francis Kosmalski, Auckland, NZ

We are happy to pass your observations along - and can assure you the "right" people at NBC will read this.

Happy camper

"What a great publication. I subscribed two weeks ago, received it within 48 hours, and now can't wait until the next issue comes out. I installed my own 2.6m dish on Australia Day and since then have been having a great time discovering the wonderful world of satellites."

Spero Davias, NSW

Sometimes we are not great, merely good.

PROGRAMMER PROGRAMMING PROMOTION

UPDATE

MARCH 15, 1999

CMT (Country Music Television) will finally encrypt (PowerVu) around 1 July. The service has been FTA since it opened up on PAS-2 as the first real cable service on board. You or your clients using the service will need a D9223 (oh - the joy at Scientific Atlanta!), and subscription. Help with the later from Southstar Media in New Zealand at 64-9-426-0481, fax 426-0581 or Email southstar@voyager.co.nz.

May not be a dead issue. Back when Aussat B-MAC service was first being established, Network 7 Sydney took up the RABS license for NSW (the same license GWN, WIN, Imparja and TAL/QQQ hold today). Alas, for whatever reason it did not go ahead with the permit, never created a service, and is now in the process of servicing Seven Central (QQQ/TAL) and Seven "West" (WIN). This placed the RABS rural viewers in NSW at a distinct disadvantage - being out of the TAL/QQQ "North-eastern footprint", forced to install magnetic (or mechanical) polarisers (later dual polarity LNBs) and larger dishes to receive TAL. Now there are reports Seven may be reactivating their "Seven Southeast" plan with the advent of digital technology and the national footprint of the Aurora coverage.

European bouquet. It might be advisable to reload it, now, unless you have done so since February 24. While the 5 video channels remain essentially unchanged, the radio/audio channels have converted from dual-channel mono (aka stereo after a fashion) to single channel mono. Well, most of them have. If you load now, it will say as follows: (1) DW-TV with stereo audio, (2) MCM with dual-mono audio, (3) RAI International with audio that is sometimes dual-mono and sometimes stereo, (4) TVE with dual-mono audio, (5) TV5 Asia with audio that is either dual-mono or stereo depending upon source. On the radio side, (6) (1) is DW1 in stereo, (7) (2) is DW2 in mono, (8) (3) DW 4 is mono - new services starts March 28, (9) (4) is DW 5 mono - new service starts March 28, (10) (5) DW 6 mono, (11) (6) DW 8 mono, (12) (7) DW 9 mono, (13) (8) YLE mono, (14) (9) WRN - World Radio Network dual channel mono, (15) (10) REE mono, (16) (11) RFI-1 Actualite Internationale mono, (17) (12) RFI-2 Asian Languages mono, (18) (13) RFI Music joint stereo, (19) (14) RNW mono, (20) (15) RAI Radio International mono, (21) (16) RCI Radio Mono and (22) (17) SRI Asia mono. Confused? Heinz-G Planka, Head of Distribution Asia/Australia at (tel) ++49-221-389-3211/13/14/15 or (fax) ++49-221-389-3270 or Email kritsch@dwele.de.

SA ECM? Those tuning in the PAS-8 version of California Bouquet (3940/1210, Msym 26.686, FEC 7/8) in addition to having to deal with FEC affecting threshold have a new problem. Despite good BER numbers and reasonable signals, the video goes into pixels without warning. Flashes and goes on, as if something was corrupting the data stream which D9223 cannot deal with. Is SA testing a new updated version of PowerVu here which older 9223 IRDs are having trouble with? What are your observations (use EWTN to make your own tests, both 9223s and other IRDs).

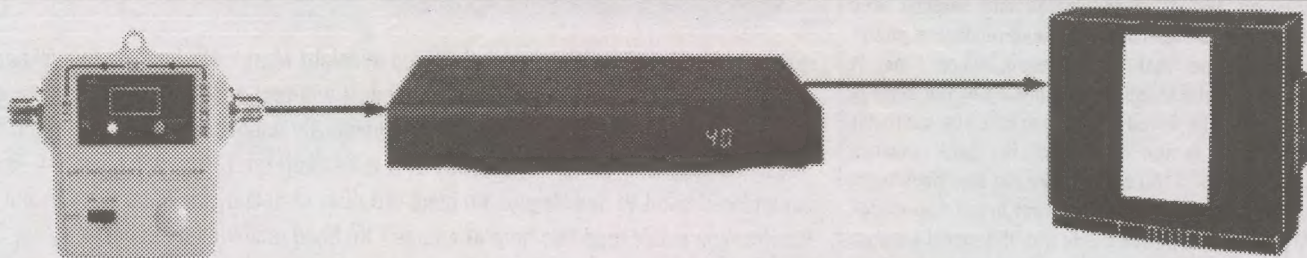
Austar/Foxtel card piracy. SatFACTS has finally located and talked with creators of Irdeto piracy cards in Europe. We asked - 'Are you presently selling cards capable of Austar/Foxtel?' Answer - "No." And 'Do you plan to do so?' Answer: "We do not." OK - 'Why won't you offer these cards?' Answer: "ECM. We back all of our card products with instant up to 48 hour replacement when or if the programmer makes changes in the data stream invalidating existing cards. We must be able to monitor the transmissions of (Austar/Foxtel) services to protect users from ECM attacks - and cannot do this from (Europe). For the same reason, we have not offered cards for Thailand either." Which makes us ask the question - will Austar or Foxtel guarantee to fix your system if it breaks - within 48 hours?

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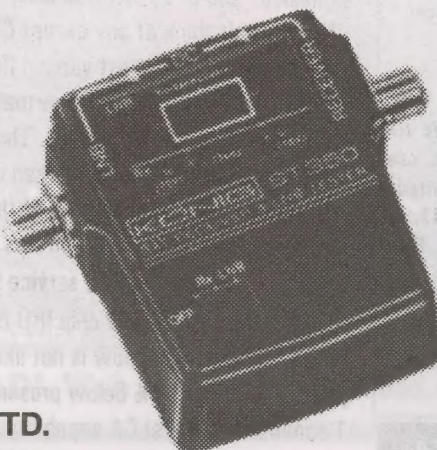
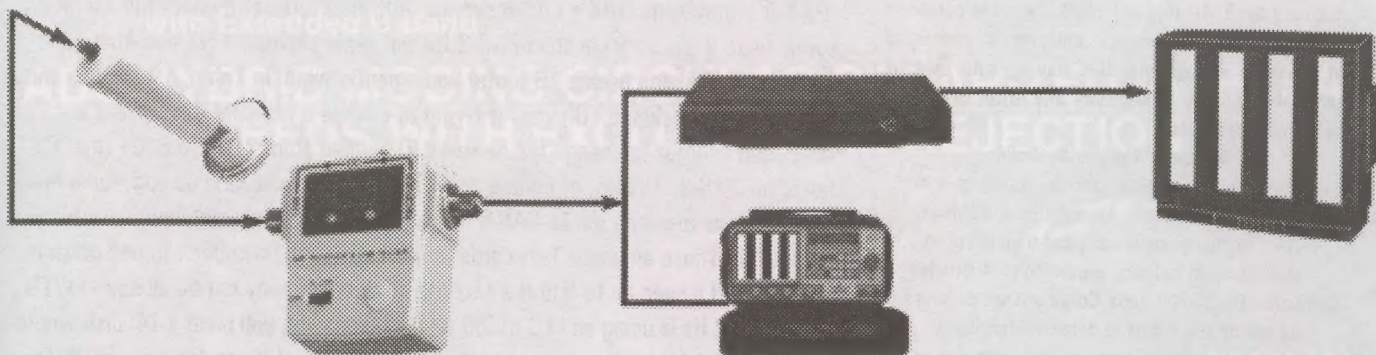
To test the operation of a satellite TV receiver, you only have to connect it to the **ST-350**, to select "Rx" mode and tune to 1385 MHz. By using a standard TV set you can verify that the test signal, consisting of two black bars and white bar in the centre, appears on the screen. Simultaneously, the **ST-350** generates a sound carrier at 7.02MHz that enables to check the audio function. It is usual that receivers are provided with switching signals for the LNB. Two LEDs on the **ST-350** indicate whether the supply voltage is 18 V or 13 V. The presence of a 22 kHz switching signal makes the LEDs to blink.

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One of the outstanding features of the **ST-350** is that it can evaluate most LNB circuits within a LNB. Through a plastic protector located on the front of the instrument, the **ST-350** radiates signals in the satellite downlink microwave frequency. By positioning the LNB in the radiating zone, three black bars and four white bars will appear on the TV screen. With this aim, the receiver has to be tuned at the frequency showed in the rear of the **ST-350**, which depends on the LNB being used.

It is usual to find LNBs in which one polarization fails.

With the **ST-350** both polarizations can be checked immediately.



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SatFACTS March 1999 ♦ page 3

Cheeky bloke

"A customer of mine purchased a top of the line IRD from a distributor and could not make it function. I took a look and immediately noticed one back corner was caved in - the metal was severely bent, indicating the receiver had been dropped - hard. The shipping carton revealed no such damage suggesting the IRD had been dropped ex-the shipping carton, placed inside and shipped. The damage was significant - I found numerous power supply traces that were broken. When I got it functional and snapped some photos of the damage (including the caved in rear corner), the customer went back to the distributor. His only response was to offer '\$100 off' or take the unit back to be replaced with a totally different brand and model. My customer wanted this brand, this model because of the excellent review in SatFACTS. Is there something like the TV show 'Fair Go' where we can take complaints?"

Stu McLeod, Napier, NZ

Send along the photos and we will consider publishing them. If the carton shows no sign of having been dropped (with the IRD inside) and the distributor was willing to knock \$100 off, this sounds like an admission of guilt for something.

Comments about Dr Overflow

"My Nokia 9200S was imported from England with a version C CAM. The unit works without any problems on both Foxtel and Austar satellite with version 2.0 FTA software which I have recently updated to 2.3. I tried several versions of CAMs; an early version did hang up a couple of times and did not like rapid channel changing (as SatFACTS previously reported). With the stock Nokia software, the Foxtel channels program information at the bottom of the screen is gone. With Dr Overflow software, the banner displays correctly. In my opinion, Dr Overflow's DVB98 and DVB2000 are very sophisticated software. And it is certainly not for the novice user. It is complex, cumbersome at times to set up and use. Having said that, it certainly leads by a long way any other 3rd party software I have used."

A. Zapara, Western Australia

Dr Overflow software has been going through some marketing adjustments. Apparently the creator(s) decided to stop giving it away and tried to set up a distribution plan including appointing an Australian distributor. Contributor Robin Colquhoun has nothing but praise for the efforts to date with this highly sophisticated software that can be downloaded into most Nokia models. But as you suggest and Robin would agree we believe - it is not for everyone and novices should be aware.

BBC back on California Bouquet

"BBC World is back on the 3901 MHz, transponder 8C, through at least mid-April. We are dual illuminated on PAS-2 until PanAmSat can provide us with a replacement horizontally polarised channel. The vertical channel (3743, Tr 1C) has not been suitable, especially into New Zealand."

Tony Troughton, Chief Engineer, BBC World

Strangely, Hong Kong and Asian readers found no problem with the 1C service channel. But down here, it has been a disaster!

HARDWARE EQUIPMENT PARTS

UPDATE

MARCH 15, 1999

Launches. AsiaSat 3S scheduled around midnight March 18, heading (we all hope and pray) to 105.5E. No word yet on whether it will test at that location or another one. Orion 3 - will not launch March 28 as previously announced. No explanation, just a rescheduling date of April 6 (or) May 1. It is heading for 139E - will have 3.4 - 3.6 expanded C-band Vt and Hz plus Ku band (40 dBw or better) for Australia, NZ and Pacific. You didn't read this here of course - Ku band may well be home to a new 3+ channel pay-TV DTH service. If we told you any more, we've had to shoot you and someone would shoot us.

172E - just a tad east of PAS-2. Columbia Communications has received (US) FCC approval to build and operate a dual-band C + Ku bird here. It says "Australia, NZ and Oceania" in their literature. No launch schedule yet (which says 2+ years out).

PAS-8. There is a story making the rounds that when the satellite was preparing to launch, a final check of the satellite through a test jig revealed a fault in the Ku section. To correct the faulty test reading, someone elected to replace a module inside the satellite on the spot in Russia (it was launched by Proton). This last minute correction was done under pressure of an impending launch - the story goes - and the technician from Loral (the firm that built the satellite) had to unplug two antenna run cables to change the module. When he put them back, he reversed the cables which caused the east-west beam to be backwards. Signals going east (to Napa and the squirt beam) - the story claims, now went west and western beam signals went east. PanAmSat will neither confirm nor deny the story. Another PanAmSat source tells us the satellite may be turned in for insurance, "a replacement built and hurried to orbit to replace the partially defective satellite." If the story is true - and we cannot confirm it is - did the guy who misconnected the cables ever leave Russia?

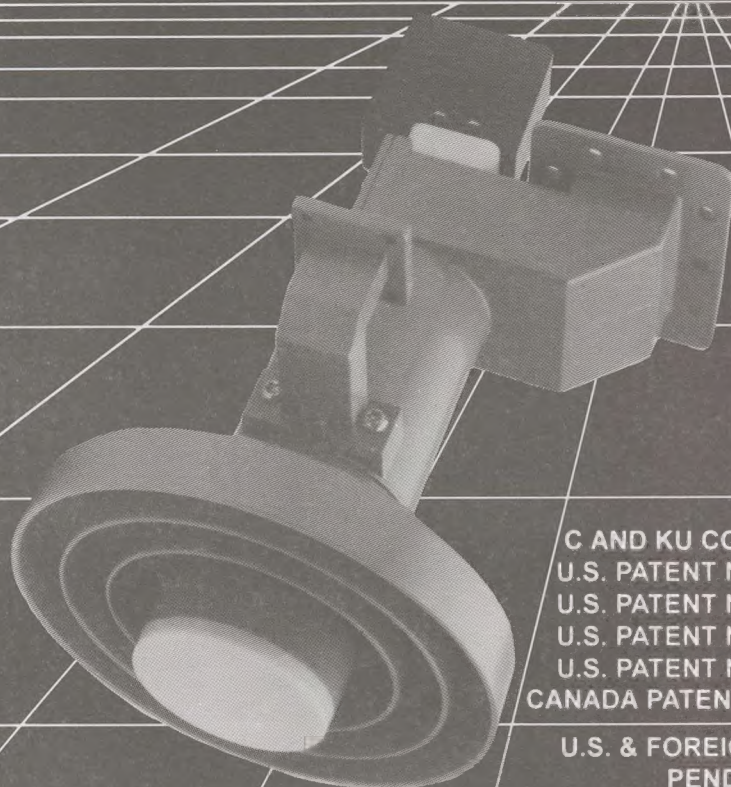
PAS-8 addendum. NHK's PAS-8 service (4065Hz) turns out, under full operating power, to be 2-5% stronger than PAS-2 for the same service at NZ and Australian locations. On Fiji, you need a 16 footer and a gentle wind. In Tahiti, a 10m dish and a plane ticket to Auckland. Oh yes - if trying to change a terminal from PAS-2 to PAS-8, don't forget to change the network ID number from 2101 to 8101 (the '8' stands for PAS-8). Unless, of course, the NHK guys are screwing up and transmitting 5101 because someone thinks PAS-8 is PAS-5 (we had that experience ourselves here at SF). Those analogue test cards (3860 and 4020) have been turned off and you may need a spec an to find the satellite now. Which may not be all bad - EWTN now on 3940 Hz is using an FEC of 7/8 which means you will need a 14' dish where previously a 10 footer was adequate. And - PAS-8 lack of Ku to Australia is finally explained - see p. 29 "At Deadline," here. Is there any good news regarding PAS-8? Uh... can't think of any except CNNI is now up in FTA analogue, 3780/1370 Hz.

Good news. The latest version IRDs for specific programmers such as Foxtel or BskyB or Sky NZ will handle virtually anything from pay-per-view to selecting between 4:3 and 16:9 displays. The bad news. The 1999 family of IRDs is more and more "programmer" specific when it comes as a part of a service package (such as BskyB). Net effect? Importing of the programmer-specific IRDs is less and less appealing and you are less and less likely to be able to modify an IRD to do something other than the one specific service for which the box was intended. See p. 6 here.

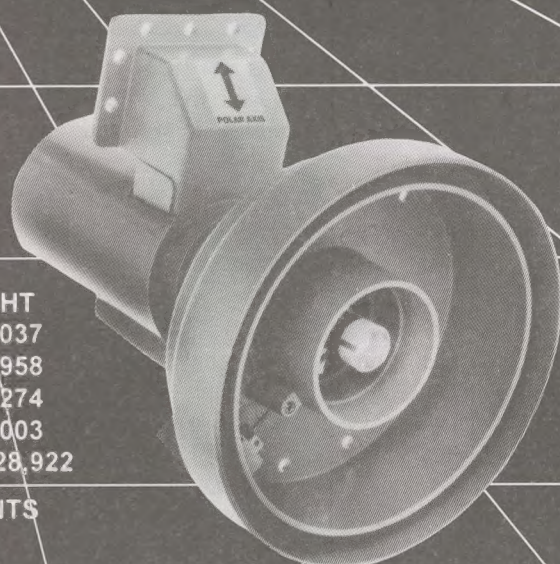
UEC 700 series single-chip IRD (see SatFACTS #46 - last June) displayed at Broadcast Australia show is not likely before August, has hoped-for dealer target price of A\$525 - 28% below present 642. It will have dual card slots, Irdeto CI (Euro 1 common interface) CA capability allowing it to work with several different CA platforms, 3 SCART plus audio RCA jacks but no video RCA.



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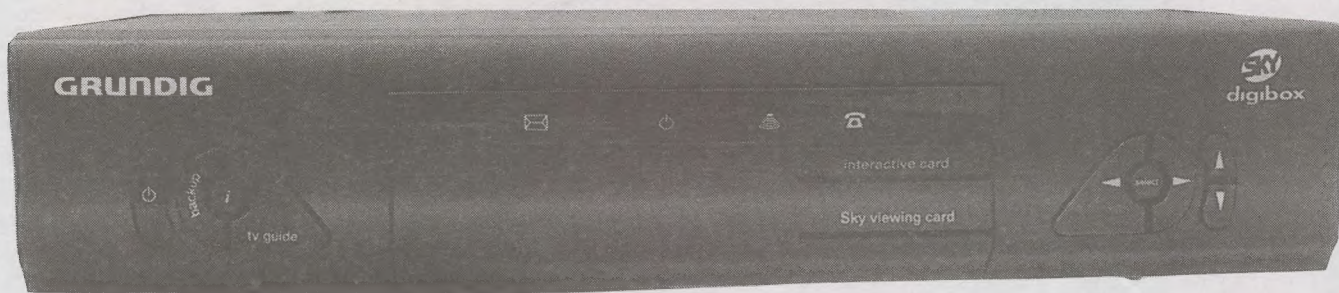
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You don't want one of these!

BSkyB Digibox Has Built-In Roadblocks for Use in Pacific



The BSkyB Digibox is one IRD you *don't* want. For a very simple reason. Unless you live within the coverage of the European (Astra) satellite, it won't do anything for you. Nothing at all.

The conditions under which it will produce digital reception are as follows:

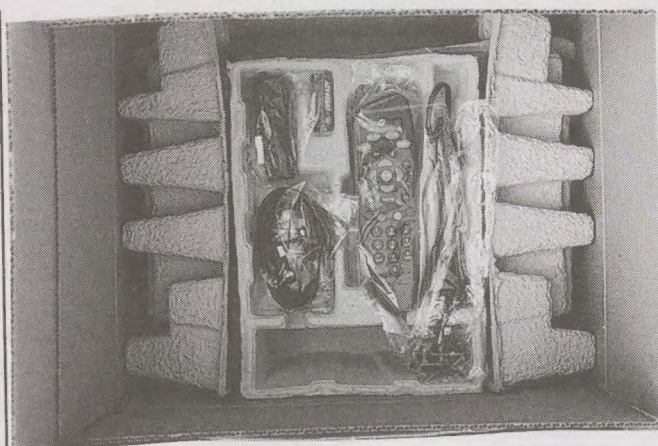
- 1) That the input frequency be in Ku-band,
- 2) That it have an FEC between 1/2 and 7/8 (so far - reasonably good)
- 3) That it processes a digital signal with a megasymbol rate of either 22.000 or 27.500, and,
- 4) The CA system is NDS - a unique system created for the British BSkyB service.

There have been other IRDs with limited tuning (frequency), Msym or FEC rates. But there has always been a menu shortcut which a knowledgeable individual could follow to modify the parameters to suit both C-band reception (yes - even the SMS IRD now used by Austar will do C-band; see p. 31 here) and a range of FEC and Msym rates. Not this one.

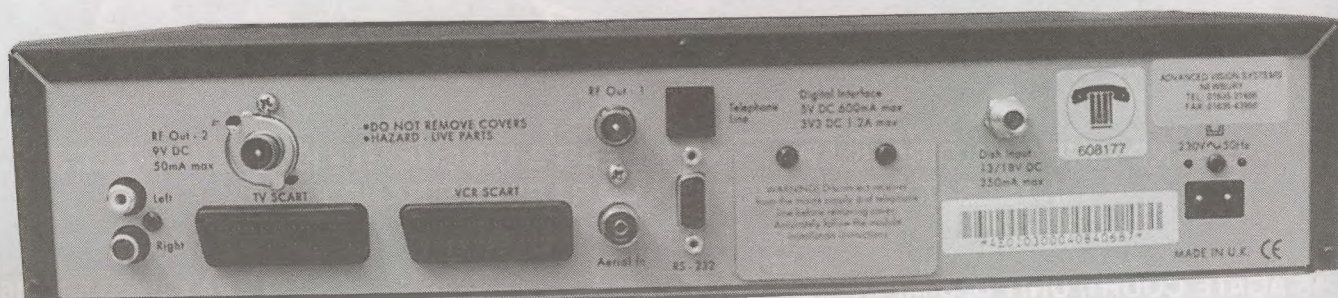
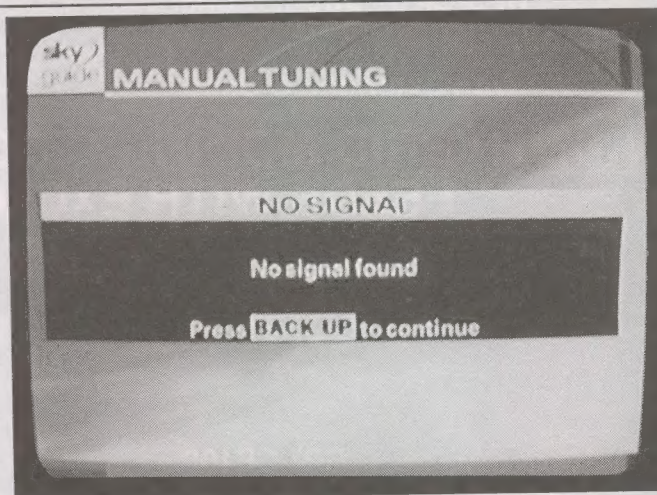
There is no installer menu. Yes, there is an *installation* menu. It allows you to modify the Ku-band input frequency, select an FEC between 1/2 and 7/8 - but only toggle between 22.000 or 27.500 for Msym. Even the Sky New Zealand Msym rate of 22.500 is unreachable. Which means this IRD will function only in a European environment.

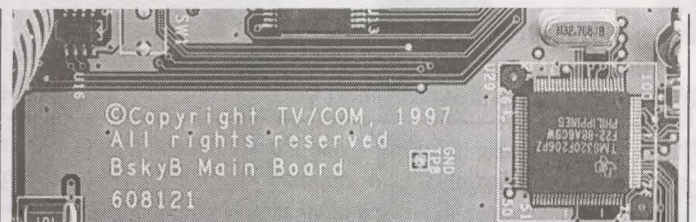
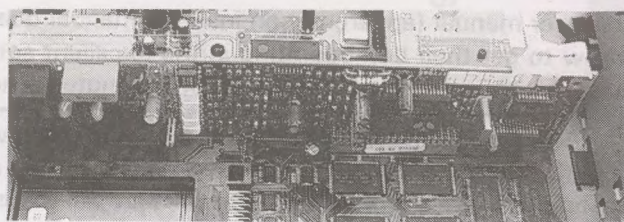
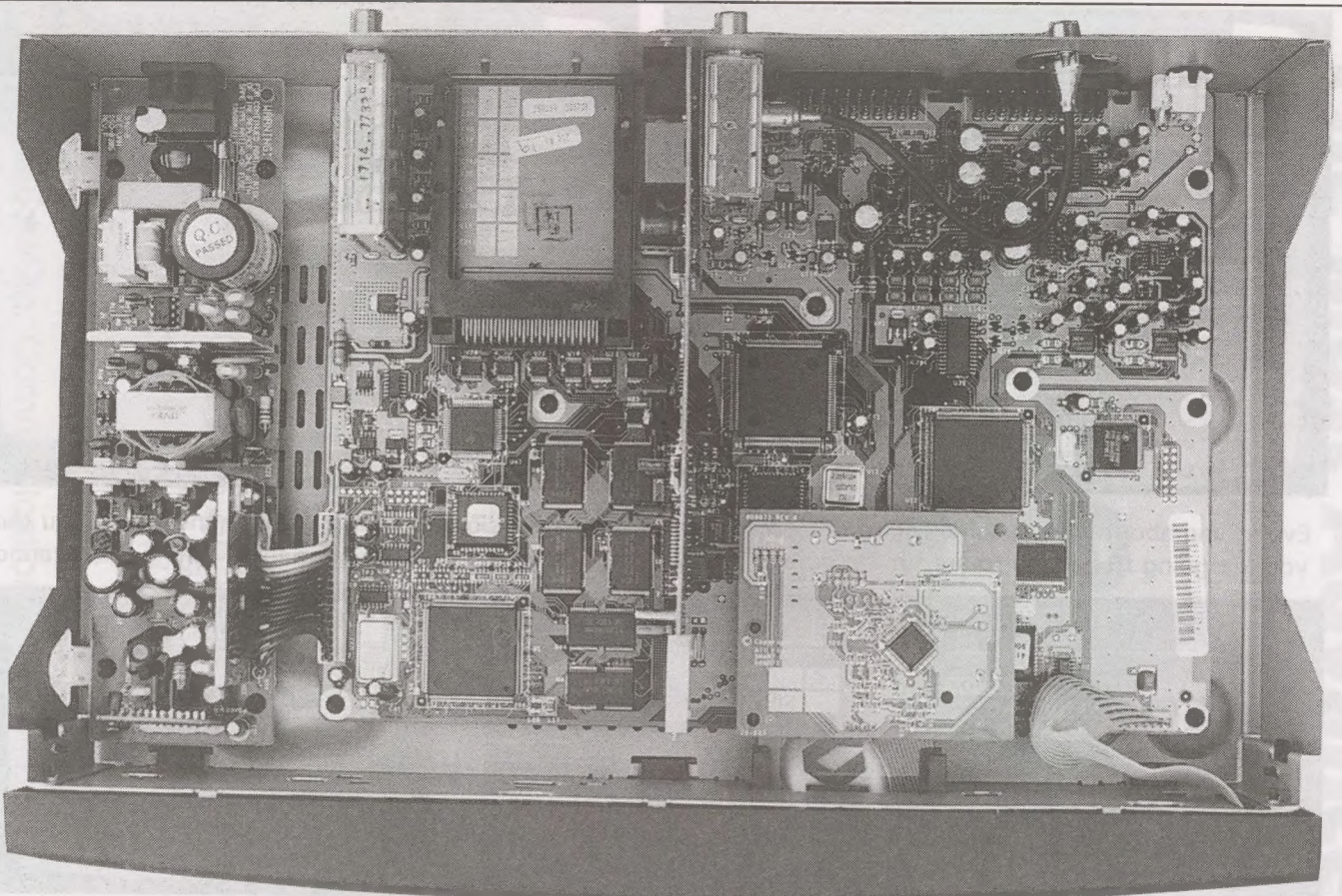
Of course that is a shame. From all outward appearances, the Digibox has many features which others in the world have only promised but not yet delivered. But we are getting ahead of ourselves.

This Grundig (brand) Digibox you see here was purchased in the UK and brought to New Zealand. The purchaser hoped it would allow him to obtain video outputs which the Sky NZ



Egg carton packing? Yes, but exceptionally well done - no damage, half way around the world.





Tight shots. A major part of the BSKyB Digibox is this special card for the telephone modem - which allows the "mother ship" to poll the individual IRDs to find out what they are doing (left). Grundig's version of the Digibox is from TV/Com which of course has Hyundai origins (right).

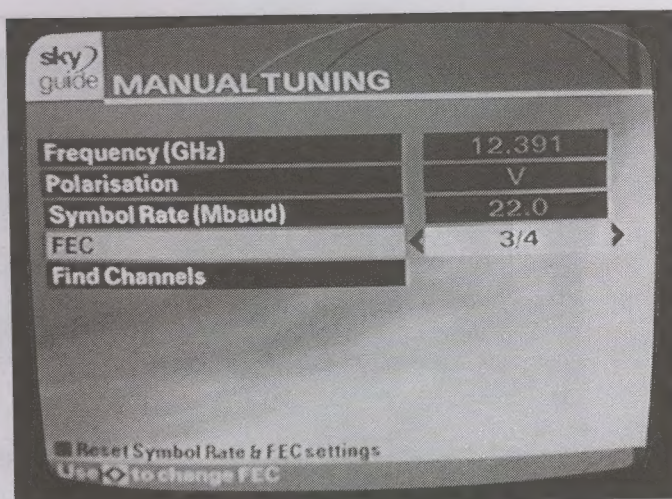
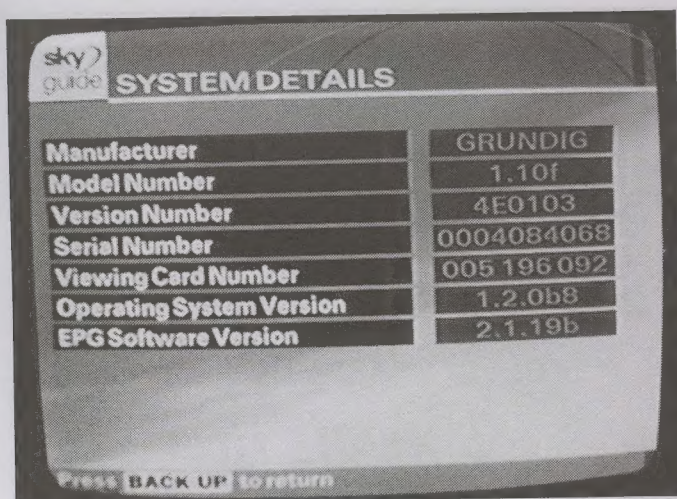
boxes do not provide - things like RGB to allow him to drive a 100 hertz line doubling large screen TV set. You see - not everyone is pleased with the low (VHS standard play or worse) "video quality" currently being delivered by Sky NZ. If you live in Australia and have seen Aurora reception - especially GWN - well, you know what New Zealanders are getting through Sky.

Our purchaser could not make it play on Sky and we had a try. And we quickly ran into the two position Msym roadblock. With nothing to lose we headed for Grundig in the UK and located a knowledgeable and helpful chap who said he would investigate our problem. Two days later he had an answer - "Because of the software which was provided to us by NDS (BSkyB), this IRD will simply not function except with Msym rates of 22,000 and 27,500." Could we download through Internet or a disc replacement software? "The IRD is capable of processing Msym rates between 2 and 30, but we are under contract to produce this specific IRD design only for BSKyB and then only with the software they provide to us." So even if we sent it back to the UK, you could not reload it with new software to give us a range of Msym rates? "No, that would be in violation of our contractual agreement with BSKyB and we

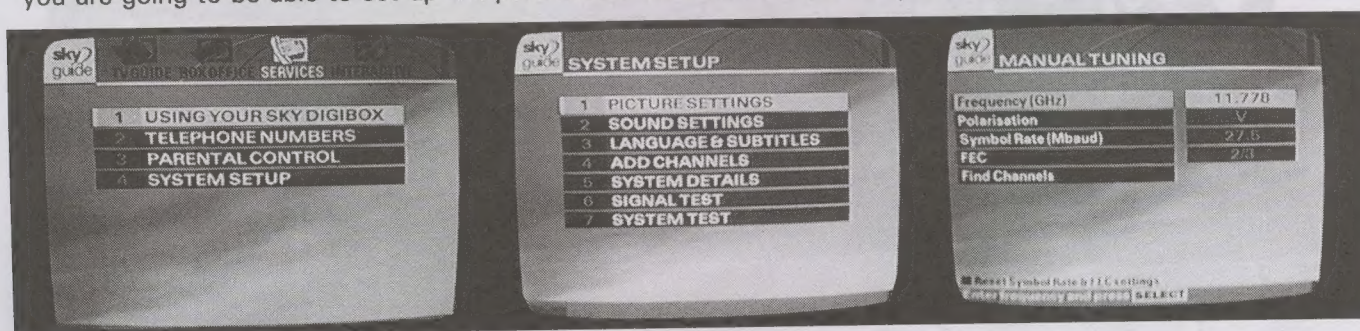
simply will not do that." But it is possible to do this, on our own? "It is possible - I think. But you have to appreciate the software provided to us by BSKyB is understood only by BSKyB and the circuit design was provided by them as well. We only know that the parts inside of GDS200 (model number of Grundig version of Digibox) are capable of processing a wide range of megasymbol rates. But in the configuration dictated by BSKyB - we cannot be sure it could in fact actually be modified."

Sky NZ - by the way - had "promised" an IRD with composite video output (which might have been used to drive high definition TV sets such as the 100 hertz line doubling models). Alas - when the IRDs arrived, they had no "S-VHS" output available.

Well, if Grundig was unable to help us, perhaps the "European underground" could. We went to Dr Dish at Germany's Tele-Satellit magazine because he knows everything there is to know about unconventional modifications to IRDs.



Everything about your specific Digibox, the card, the software versions is found in the menu (left). You think you are going to be able to set up the parameters for a non-BSkyB service using manual tuning. You cannot.



Although the (Grundig GDS200) Digibox has an excellent user manual (apparently an installer manual does not exist), most users will find everything they need to know to get their box operating in the excellent set of menu options which lead you, gently, through steps necessary to set-up a system in about 5 minutes time.

"The Grundig Digibox - like Pace and the others - is an unfortunate design which appears only capable of doing precisely what the Murdoch team intended. Moreover, it is my opinion that if you could modify it for your uses there, you would be unhappy with it since Grundig has not been an innovator in a decade or more."

OK - next stop an engineering individual working within the NDS/Murdoch empire.

"The software in the box consists of layers. The lowest layer is the drivers to the hardware (front end, A/V demod, smart card and so on). On top of that you have middleware which the actual application software sits upon. The purpose of the middleware is to allow the application to talk to the drivers in a consistent way. Since you could well have different front ends, A/V chips and so on, your drivers may be different and hence the benefit of a generic interface courtesy of the middleware.

"For BSkyB, Open TV has been chosen for the middleware. Open TV is proprietary, by the way, and with sufficient mass behind it could well become the defacto 'standard' middleware for the entire industry.

"A good analogy is your PC. Consider DOS as your drivers and Windows as your middleware. Whatever program you run to deal with (say) Email is then the application. The app will run on anything that has Windows on it and Windows can run on different platforms courtesy of the OS (such as DOS) which is PC-hardware specific.

"Translated to the IRD, this means that you do hardware specific drivers that talk to the middleware and then your own application which is written for that middleware can be run on any hardware on which the middleware has been integrated into - you only write the application once and it is the same application (with the same look and feel, the same user interaction) on any box for that broadcaster - no matter if the box comes from Pace, Zenith, Grundig, Amstrad or Joe Wong's 888 Long Life Win Electronics Sweatshop of Keelung, ROC!

"So - as Windows does not prevent you from dialling with your modem to such and such Internet service provider with a ten digit number (say your local dialler only accepts 8 digits), the problem is with the dialler which is an application that sits on Windows. Since the dialler programme is Internet service provider-specific, they saw no need to allow you to use it with another ISP and therefore limited it to 8 digits.

"Likewise, the BSkyB application is only intended to be used on BSkyB, so there is no need to allow the user to select anything but Ku band local oscillators and symbol rates dictated by the satellite platform. The FEC rate has been left changeable because there could be a need to fiddle with it in the future (adjacent interference from other satellites, need to squeeze a more effective transport stream throughput in order to put one more channel on a transponder, compensate for lower EIRPs from an ailing TWT on the bird - and so on)."

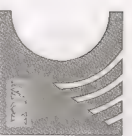
And now you know. IRDs of the future that are programmer specific will be less and less capable of doing anything else. And if they could be modified for other use - would you really want one anyhow?

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Hyundai introduces the latest "hot" IRD

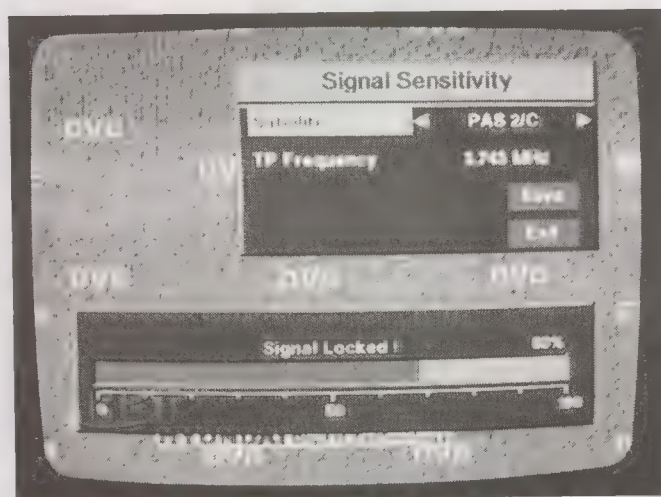
Model HSS-700 Spells Hot "HDT"



Most of us know that when an IRD says "Hyundai" on the front, it has good heritage. Hyundai has had the technical support of American innovator TV/Com (see report on Grundig BSkyB box preceding this) and preceding models (HSS-100 in several software versions) have been well received in Asia and the Pacific. Most of us also know - or strongly suspect - that Hyundai - the brand name - is presently only loosely connected with the Hyundai of 2 or 3 years ago. This is because Hyundai, like other Korean conglomerates, has been told to divest of those manufacturing segments which are not making big dollar profits. So Hyundai has "farmed" out their original engineering on digital satellite receivers to several relatively smaller Korean firms who now specialise in the manufacture of products with - understandably - the "Hyundai" name on them. After all, it is a recognisable brand name, it does have market appeal, and it would certainly be quicker to sell and quicker to make the pages of SatFACTS than something with an unrecognisable and unpronounceable Korean name.

A Hyundai is not a Hyundai - anymore. But we can pretend it is because it follows in the same pathway as its HSS-100 cousins.

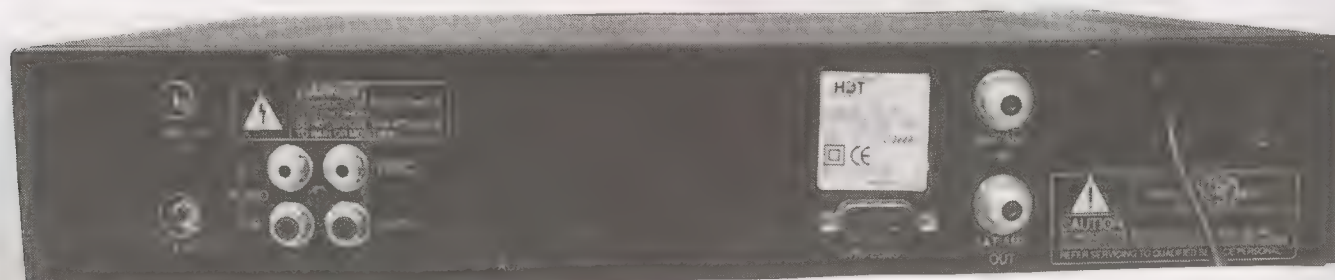
The HSS-700 is the latest to carry the name. The front panel says "HDT - Hyundai Digital Technology" but you can be pardoned if you think it says "hOt Digital Technology" at first glance. The 700 is DVB and MPEG-2 compliant. It is a free to

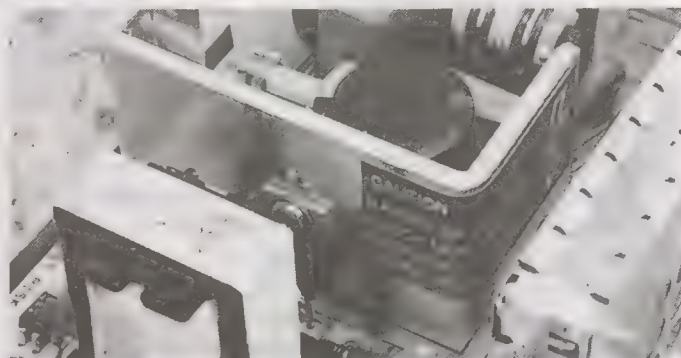
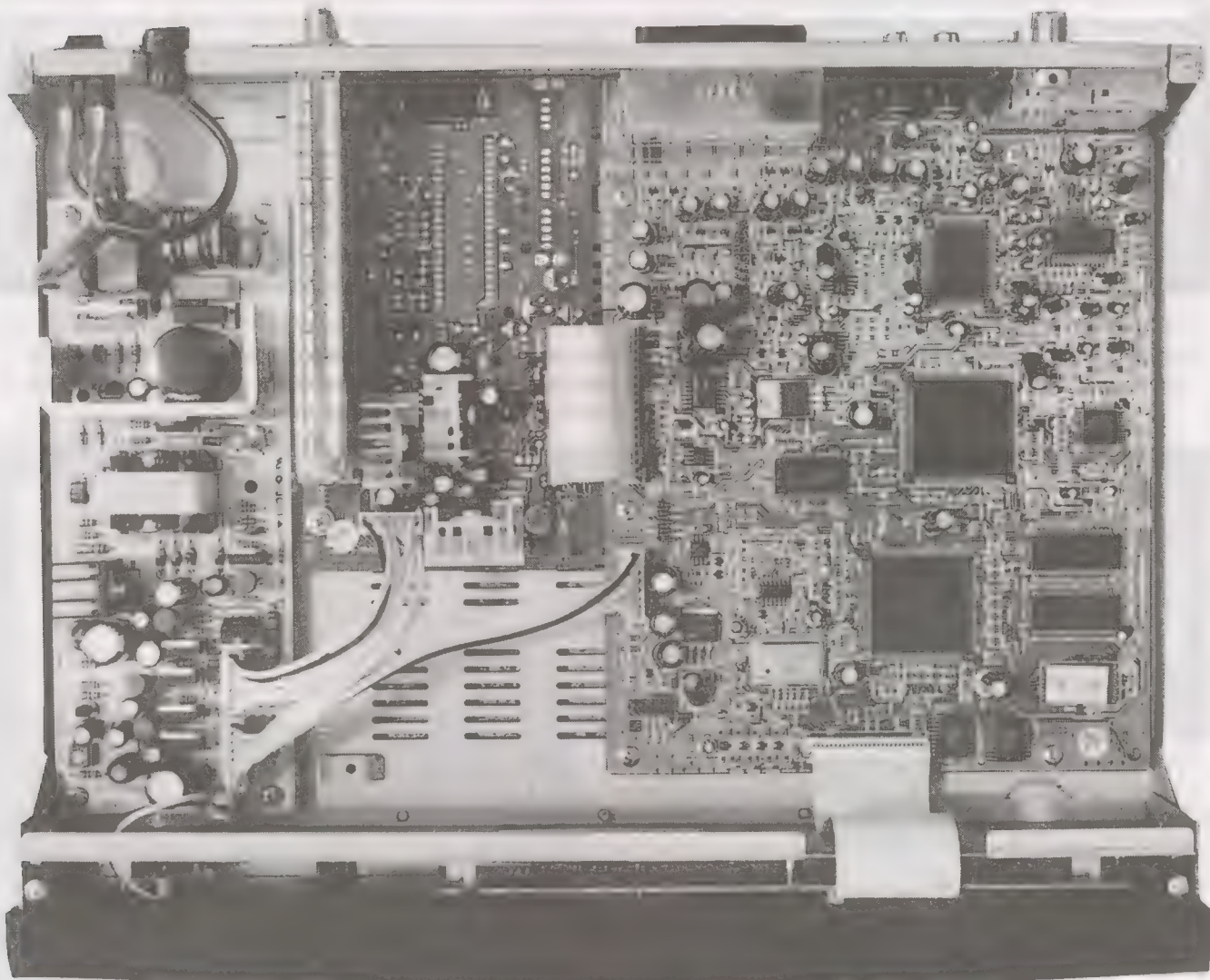


User displays are excellent and the data provided is helpful to dish alignment as well as bouquet or programme status. If you have ever run a FTA IRD previously, the 700 will feel "comfortable."

air IRD, will support an electronic programme guide (but only when and as the programmer puts one on the air), handles any SCPC (from 2 Msps) and MCPC (to 45 Msps) service whether on C or Ku bands. It will reinsert Teletext on video (with limitations) and has both A+V and RF outputs. And, like most

All of the expected connections: terrestrial antenna in, modulator out (left), A + V RCA jacks, twin SCART, RS232, L-band input and L-band loop-out plus mains power on/off (upper right).





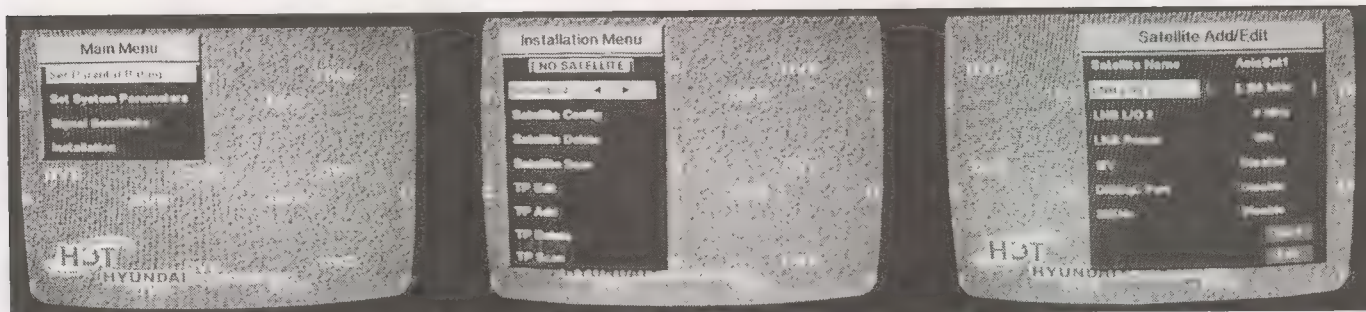
HSS-700 power supply (left) is beefy and apparently well designed (time will tell what the frequency of service is). But - in the early model we received for test, there is one "potential" problem - spelled out with a red label. That heat sink aluminium channel piece (see right hand photo - with warning) is "hot" with over 300 volts. We've been advised it will be protected - from any accidental contact to a human being shoving something metallic through a ventilation slot - by a factory modification.

other modern sets it claims the ability to be software upgraded through a built-in 232 port.

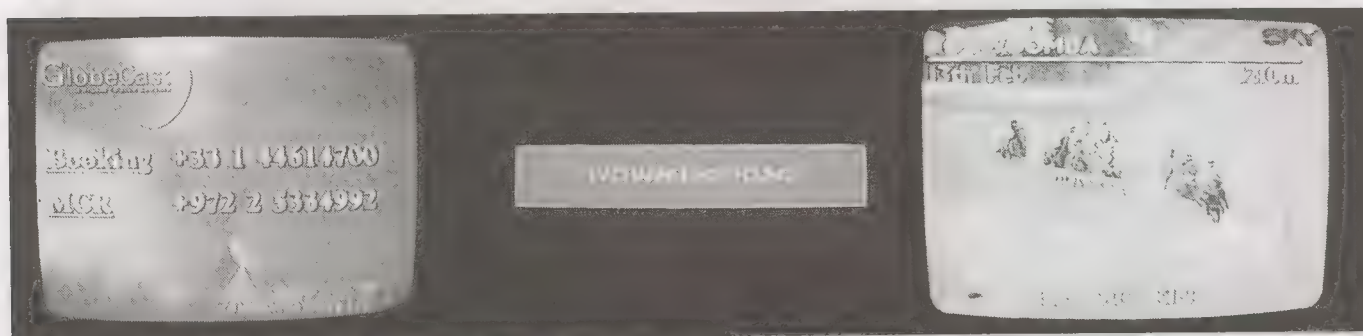
It covers 950 - 2150 MHz L-band inputs, provides 13 and 18 volts for LNB switching (with a healthy 500 mA supply - adequate to run line amps and multiple LNBs), carries European important DiSeqC LNB switching capability (version 2.0 - the latest). In the demodulator, a 32 bit processor (64 would have been nicer but 32 is an improvement over 16) is supported by 2 Mbyte of SDRAM, 1 Mbyte each of flash and RAM and an EEPROM. The power supply is switch-mode

(are not they all?) drawing 30 watts (same as a UEC 642 - for example) and runs reasonably cool to the touch. We experienced no problems which we suspicioned were heat related in ten days of constant operation.

We found it handles NTSC (including the onerous PowerVu bouquets) and PAL with equal ease. The menu selects PAL or NTSC (video) output and once selected, the output stays in the selected format regardless of the input signal standard. This



Start with the main menu (left), proceed through installation (middle) and then you are able to add to or edit or subtract pre-loaded listings which do not apply to you. Satellites from Pacific west through Europe are loaded on board but as with any such listing, time sensitive. Below - two examples of "at home" (left and right - WTN/Globecast Jerusalem Sky Racing on As2) and "not at home" (centre).

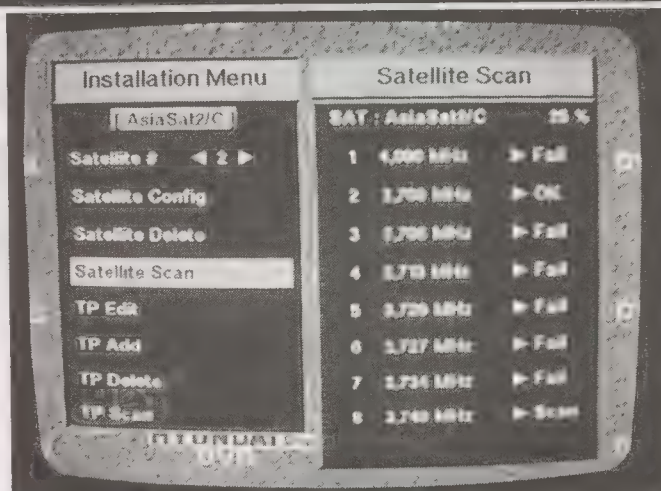


eliminates a need for a standards converter. There is one other interesting feature we could not verify - audio language select. If a programmer is transmitting two or more audio tracks, and you have selected "English" as your "local language," the IRD when arriving on a new programme channel will search for and then produce the (previously selected) English audio channel automatically - assuming only there is an English language track being broadcast.

The on-screen set-up menus are easy enough to follow but perhaps a little advanced for consumers. The installation menu lets you select between: (1) Satellite # (each satellite preloaded has a find-number), (2) Satellite Config(uration), (3) Satellite Delete (why keep in memory preloaded satellites you can't receive from your location?), Satellite Scan (goes to the factory memory and searches for all preloaded transponders on a particular satellite), TP edit, TP add, TP Delete and TP Scan.

Now that "Open TV" is built into IRDs such as the Digibox, and individual programmes can (and increasingly do) have titles or even brief descriptions included in the data stream, what the consumer is going to demand within two years is a master menu that lists subjects by genre (Auto Racing, through Food, Pygmy Tossing, Zoological). Select a programme by topic, sit back and let the IRD find it, no matter where it is. And if Pygmy Tossing is not on the air at that instant but is promised six days down the track? The on-screen menu will advise you of this and ask "Do you want to see (record) this when it appears?" Anything less will be unacceptable to consumers and at that moment in time programme channel numbers will become a footnote in history books.

Satellite Config(uration) allows you to call up the preloaded satellites, select from the 0/12V switching (yes - it has this also), DiSEqC or 22 kHz (LNB) switching for each satellite. That in turns allows you to whip through a satellite merrily confident that the IRD will be telling your LNB what to do for each pre-loaded (at the factory) transponder on that satellite -



HSS-700 scans all frequencies on the satellite - intermixed by polarity as a function of frequency. So - it will "miss" services when you are using a non-menu-driven polarity switching system.

integrating with your particular LNB switching system. The installer should like this feature - the consumer typically will not even be aware the IRD is so clever.

This is a high quality IRD with state-of-the-art software features. Scanning (loading) speed was modest but acceptable (nearly 5 minutes for all of AsiaSat 2). Signal performance is very good, sensitivity good. We did notice it seems to have difficulty deciding what to do with encrypted services that load (partially) and then of course cannot play. We'd like to see the on screen display more clearly explain when (and why) encrypted services don't load ("No signal" is untrue and "Bad signal" hardly describes it properly - do we come back later and try again?). Perhaps it would make more sense to say on the screen "This channel is encrypted - don't waste your time here!"

HSS-700 is available in Australia from Kristal Electronics, tel ++61-7-4788-8902, fax ++61-7-4788-8906.

See more detail

Perhaps the most important specification of a Spectrum Analyser is its Measurement Bandwidth. The narrower the Measurement Bandwidth, the more detail will be displayed on the screen. For satellite TV instruments, typical Measurement Bandwidth might be 9MHz or 4MHz, which is OK for showing a full transponder but not much else.

The new Unaohm EP507 includes Measurement Bandwidth as fine as 100KHz all the way up to 2150MHz! This makes the instrument suitable for VSAT and other communications work as well as Television.

A premium quality colour LCD screen displays spectrum markers in colour, as well as providing green/red go/no go feedback from digital Bit Error Rate measurement options.

The EP507 is a computerised instrument, who's spectrum display properly shows frequency from left to right and level from top to bottom. The computerisation has been implemented with great care so as to increase the range of useful measurement functions. One example is the tuning knob, which is in fact a pulse encoder that assists by providing fast access to menu functions or tuning, by PProgram, CHannel, or FFrequency.

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RTIF Where It Went Wrong

The concept was simple enough - anyone who had previously purchased an analogue B-MAC decoder (plus of course the required aerial, LNB, cable and analogue receiver) would be entitled to upgrade their B-MAC decoder to MPEG-2 digital. This was a *political* decision - many B-MAC systems have been in use ten years or more (some as long as 14 years) - people might whinge about having to spend money to upgrade but after ten years of service, who could really complain about technology providing something better - even if it did cost the user around A\$1,000?

Politicians were sensitive to the complaints they thought the conversion from B-MAC to digital might create - and through a "rural" fund set aside something approaching A\$7,500,000 to be doled out in increments of \$750 to each qualifying home. In reality, the conversion from analogue to digital involves a digital IRD (UEC model 642) which carries a list price just under A\$1,000 - thus the customer, fuelled with a Government issued voucher for A\$750 adds upwards of A\$250 of his or her own money for complete the transaction.

Alas, there have been problems.

First, only one IRD was approved by Optus for the RTIF subsidy although Optus did eventually give its engineering stamp of approval to a second design unit (the Panasonic TU-DS10). UEC is distributed exclusively by importer Nationwide Antennas. Geoff Dargie of Nationwide told a training group assembled in Belrose in July - "*Optus wanted only one lot of problems. One receiver, one set of problems.*" Perhaps, but the handling of the RTIF project through a single (exclusive) distributor importing the only IRD Optus approved for the RTIF (A\$750) subsidy has been a sore point with many.

The UEC 642 got bad reviews (including here) for several reasons. UEC admitted the power supply "*was not bullet proof*" and solicited suggestions to improve it. One particular concern - using it in a rural environment with generator power and/or "modified square wave inverters" in regions with non-grid mains. One excellent suggestion - change out the rectifier diodes (1N4007) with a sturdier diode having a faster recovery time (the UF4007, for example) rating. The "R" in RTIF is for "Rural" in case you had not noticed.

The technical weakness could be easily identified, perhaps corrected, but in either event they were a "known." Not so apparent have been the distribution and marketing problems. Nationwide was faced with an initial business problem; finding the money to make good on purchase orders to UEC that would amount to millions of dollars. Here is the scenario.

UEC selected Nationwide because a chap named Bob Kelleher (Antares Satellite Products) had paved the way. Kelleher acted as a representative of UEC, arranged initially for Optus to meet with UEC, and then when Optus showed an interest in the product for the Aurora project, went out and "found" Nationwide to be the UEC distributor in Australia. To "qualify" with UEC, and to meet the criteria that Optus

demand, Nationwide had to locate funding to back up purchase orders for thousands of 642 units; millions of dollars. The bank, in turn, wanted guarantees - no bank wants to end up having loaned millions of dollars for something as new and untested as "digital IRDs" and then find out it is left holding the bag with a warehouse of unsold 642 units.

So we have Optus "certifying" that the UEC 642 was suitable for the Aurora project and the only IRD they would certify for RTIF - government rebate funding. And we have UEC building the units upon receipt of a piece of paper (a purchase order) from Nationwide which is backed up by a banker's guarantee that when the IRDs are ready to ship, UEC will be paid. You can be sure that over in South Africa, UEC's bankers were looking at this very closely as well - because they would be "advancing" funds to UEC to build the IRDs to fill this order.

Meanwhile, Nationwide had to work out the logistics of distributing the IRDs. Optus opened the door for the firm to get reasonably prompt payment for each RTIF voucher turned in. But the vouchers began with an individual home or family, wound their way through an installing dealer, then to Nationwide and thence back to the Government agency given the responsibility of "certifying" each RTIF transaction. When the Government man was satisfied, a cheque to Nationwide completed the sale. In the interim, Nationwide had shipped an IRD upon receipt of a cheque from the dealer (typically the difference between the 642 "list" price and the RTIF voucher - near \$250, or just under \$1,000 with a rebate promised).

The logistics were formidable and if Nationwide actually managed a paper "profit" of A\$250-\$350 per 642 shipped, a not insignificant percentage of this was "eaten up" by the bank charges for first of all guaranteeing the original purchase order to UEC, and second of all - "floor planning" the 642 units in a warehouse between their arrival in Australia and their final shipment to a dealer in return for the dealer's cheque and RTIF voucher.

It was - and is - a complicated system. A very complicated system. And it is further complicated because there is a relatively brief period of one year (June 1998 through May 1999) when UEC 642s are being exchanged for RTIF vouchers. During this period, Nationwide has had the additional burden of handing the exchanges while still servicing its dealer network from Indonesia to New Zealand.

The risks in all of this have been substantial. UEC's bank depended upon Nationwide's bank for funding; Nationwide's bank depended upon onesy-twosy orders from dealers ordering the 642 and the occasional regional "sub-distributor" who took a few hundred at a time and then resold them. Nationwide's bank could only lean on the "expertise" and "promises" of Optus that through it all, Nationwide would have an "exclusive" on the RTIF portion of the project. Optus in turn had to guarantee they would not allow the appointment of a second RTIF agent which meant of course no second IRD would be approved for the RTIF portion of the project. It is

not difficult to understand why some people felt enraged by the way it was ultimately handled.

The Marketing

UEC and Nationwide were dependent upon Optus, the ABC, SBS and others to "get out the word" that the RTIF programme was functioning. The original B-MAC broadcasters were believed to have accurate files listing every known B-MAC authorised user. Because the ABC was a common service to all B-MAC users, the ABC list became a valuable commodity. So too the Optus list - each B-MAC receiver was "addressable" and within the Optus addressing files, the complete data on each location where a B-MAC resided.

Several firms realised early on that having access to a "list" could be an important tool in marketing the changeout UEC 642. Some firms were able to obtain a list from a regional broadcaster (such as Imparja although there is limited evidence Imparja - specifically - allowed their viewer list to be used for marketing purposes). It was assumed, but never stated in writing, that these lists were "private" and a broadcaster (such as ABC) had no business allowing others to utilise the lists. A funny thing happened with the ABC list for NSW - the ABC somehow "lost" it while a regional distributor suddenly was mailing promotional literature to B-MAC users. SatFACTS found numerous (we believe ultimately 400-plus) NSW B-MAC users who received mail promoting UEC 642 changeouts but who simultaneously failed to receive literature which the ABC "insisted" had been mailed to everyone on "their" list.

It would appear there was some midnight trafficking in B-MAC lists and at least some distributors and retailers of UEC 642 product managed somehow to get their hands on lists. Did an employee of the ABC "befriend" a distributor with a list? Or, did the lists that wound up being used by equipment distributors originate at Optus? If they came from Optus, who was responsible for allowing the "internal" and supposedly "secure" B-MAC user lists to get into the hands of equipment sellers?

Has the "privacy" of the B-MAC users been "violated" by under the table dealing in "mailing lists?" If yes, who is responsible for the violation and who can be held accountable? *Does anyone really care?*

And these are a few of the Aurora-by-Optus questions that are troubling the industry.

User Comments

"(with respect to getting authorised for Seven Central) *I rang Optus and managed to get through to a friendly chap* sitting at a terminal for the authorisation computer. He checked if my card was on the list and said, "Somehow the computer must have missed doing it. I'll authorise it right now." The programme for authorisation may not be very efficient because I could hear him busily typing away for about two minutes. Three minutes later my UEC was able to decode Seven Central. I asked him if he could do Queensland SBS and ABC as well. Every so often I could hear the computer speaker squawk at him. Sure enough, up they came. If this is how they have to do it for each IRD, it could be a long time happening!"

"*The person representing ABC at the UEC training course (Belrose - July) told us, "We have organised the system so that it will only require one phone call to authorise an IRD for all ABC and SBS services. Now I notice the on screen display is advising viewers to register for the Queensland SBS and NSW services. As there was a data base created at Optus when the*

AURORA TV Channels - as of March 6, 1999

1	TVSN	Shopping Network
2	HORizon	Horizon Learning Channel
3	(not in use)	
4	BTV1	enc/Optus business TV
5	BTV2	enc/intermittent use
6	BTV3	enc/Optus business TV
7	SKY1	enc/Normal TV service
8	SKY2	enc/ + NSW TAB Radio
9	SKY3	enc/ + Victoria TAB data
10	SKY4	enc/ + WA TAB Radio
11	SKY5	enc/ business data
21	ABC TV WA	Public TV, Western Australia
22	GWN TV	WA only; (9 & 10 networks)
23	WLK	WA Education/Teaching
24	WIN	WA only (7 network)
29	ABC TV NT	Public TV, NT
30	IMP TV	Licensed area (9 & 10 nets)
31	IMP PTTV	enc/Business (088-950-1411)
36	ABC TV SA	Public TV, South Australia
37	test	(occ. video from SBS)
38	test	(occ. video from SBS)
39	ABC TV Q	Public TV, Queensland
40	Seven Central	Licensed area (7 network)
41	SBS QLD	SBS Qld (1300-301-681)
42	SBS Q DATA	(temp same as 41)
43	test	(temp audio radio ch 51)
44	test	(temp audio radio ch 51)
45	ABC TV SE	Public TV, Sydney

AURORA Parameters

12.407Vt(B3). Msym 30.000, FEC 2/3; TV chs 1-20, radio chs. 1-20

12.532Vt(B3). Msym 30.000, FEC 2/3; TV chs 45 -up; radio chs. 56 -up.

12.595Vt(B3). Msym 30.000, FEC 3/4; TV chs 21-35, radio chs 21-44

12.720Vt(B3). Msym 30.000, FEC 3/4; TV chs 36-42, radio chs 45-55

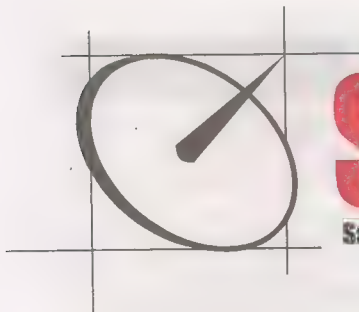
Note in TV listing (above): Not all channels are actually 'video' or they 'borrow' video from another and add a new audio stream (such as Sky 1 video on Sky 2,3,4 and 5).

Aurora Notes

On non-Aurora card receivers, TVSN (TV ch 1), radio chs 20, 21 are FTA. SMA radio channels 1-7 may show 'CA' on IRD but are rarely muted. DGT-400 will **NOT** produce Aurora smart card reception

Aggregated TV Service Coverage

National 7 network is now carried on satellite by GWN and Central Seven (TAL/QQQ). National 9 and 10 are carried by new WA service WIN and Imparja. See pages 20, 32 here for discussion of status of "aggregation."



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Heavy Duty Power Supply



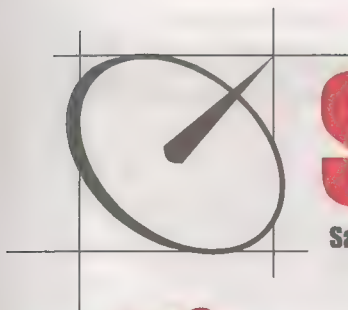
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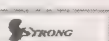
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- 8 Steps Volume Control
- 3 Scarts (TV, VCR, Decoder)



PALCOM SL-7700R features

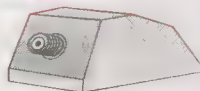
- Dual Axis
- Positioner
- Low Threshold
- Auto Focus
- Inclined Orbit Tracking



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cards are initially switched on, why couldn't they use the same list without asking us to ring again?"

"As an installer, I am not very impressed with the procedure to get new customer cards turned on. All I seem to get is a busy tone and I have spent more time waiting to get a card turned on - to verify the installation - than the install itself took!"

"Firms offering Aurora IRDs (whether UEC or Panasonic) need to be more careful about the way they describe the 'do-it-yourself' installation in their promotional literature. One (NSW) firm that sells as far afield as NT and WA sends out literature to B-MAC registered owners extolling the virtues of self-installation. The literature says something like, 'It is easy to do and if you have a problem, we have dealers in your area who can help you out.' Unfortunately, the dealers 'in your area' are the very people rural customers should have been buying from to start with and most of them are not going to be anxious to 'help out' someone who thought they were saving money by purchasing a system from a firm 1,000 or 2,000 miles distant."

"One of my ex-B-MAC customers is having trouble getting his order processed by (name of firm in NSW). He placed the order by registered mail, including the RTIF voucher and a bank-cheque some 25 days ago. He rang the seller's office and they claimed there was no record of the order. Next he called the bank and sure enough - the cheque had been deposited into the seller's account just days after he mailed the order. So he called back - and called back again, and eventually a staff member said he had located the order in a stack of unprocessed orders 'still waiting for computer processing.' They told him that because of the huge number of orders they are processing, it would be another fortnight before his UEC could be shipped. Such are the joys of doing business by mail."

"Aurora appears to be some way from a stable and reliable service - Optus people keep playing with it! An example. On February 27 shortly after midnight (at least they didn't try this in the prime viewing hours!), Optus was at work on the data stream on the 12.407 transponder and all of the TV and radio channels were suddenly FTA, but none of the channel labels would load. It appeared they were experimenting with bandwidth capacity. For example, Sky Channels (7 to 11 inclusive) had excellent video quality services and 7, 9 and 10 had normal stereo while 8 and 11 had (normal) left audio while the right channels were radio services. TVSN was running at its usual (poor) refresh rate, Horizon was off the air. The radio channels (1 through 40) were being switched on and off in groups. They were still at it at 3AM when I quit for the night. The video quality was superb during this period (TVSN being the exception) telling me they were trying to find the best balance between data rates, bandwidth and video quality. It does concern me that they seemed to have to turn off the Irdeto CA system for this test. Does this mean the encryption system itself requires so much data space that they can only get reasonably good quality video by turning it off?"

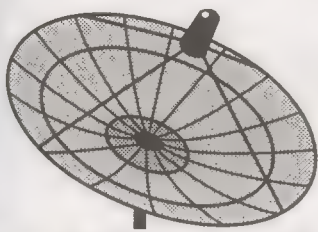
AURORA Radio/Data Services - 06-03-99

1	R1	Contemporary Music (*)-SMA
2	R2	Aria 100 Music (*)-SMA
3	R3	Cool Vibes Music (*)-SMA
4	R4	Classic Gold Music (*)-SMA
5	R5	Country Beat Music (*)-SMA
6	R6	High Energy Music (*)-SMA
7	R7/temp	Rock Radio Music (*)-SMA
8	SMA Bus 1	Enc/Woolworth Music-SMA
9	SMA Bus 2	Temp FTA (*)-SMA
10	QTAB	Enc/Qld TAB gambling
11	NIRS	Enc/Indigenous(07-32152-1588)
12	RPH	Enc/Print Handicapped
13	BBS World Svc	Enc but avail. (02-9955-4092)
14	CBAA	Enc/Community Best Assn
18	UCB	Enc but avail(1800-068204)
19	SMA ITA	Radio Italia-SMA
20	Ref Tone	Test tone
21	RABS Tone	Deviation tone (-18dBm. 400 Hz)
22	ABC FM WA	Classical for WA
23	ARC RN WA	Special Information for WA
24	ABC RR WA	Regional Radio for WA
25	990 AM	Enc/Sight impaired
32	ABC FM NT	Classical for NT
33	ABC RN NT	Special Information for NT
34	ABC RR NT	Regional Radio for NT
35	IMP R1	8KIN Al. Spgs- Imparja package
36	IMP R2	TEABBA Darwin-Imparja pgage
37	IMP R3	5PYM Umuwa-Imparja package
38	IMP R4	TAB NT - avail. only in NT
45	ABC FM SA	Classical for SA
46	ABC RN SA	Special Information for SA
47	ABC RR SA	Regional Radio for SA
51	ABC FM Q	Classical for Queensland
52	ABC RN Q	Special Information for Qld
53	ABC RR Q	Regional Radio for Qld
54	TAIMA	Enc/ user ID unknown
55	SBS R QLD	SBS National - Qld
56	ABC JJJ	ABC Youth - moved from 27
57	ABC PNN	News, Parliament -from ch. 28
61	ABC FM SE	Classical for SE
62	ABC RN SE	Special information for SE
63	ABC RR SE	Regional Radio for SE

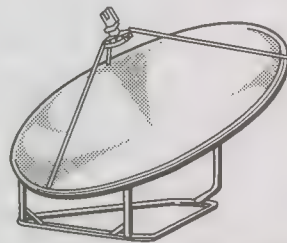
Others testing include 27, 28, 39, 40, 41, 49, 50, 58, 59, 60. * means may indicate CA but is typically FTA

Useful RABS Contacts

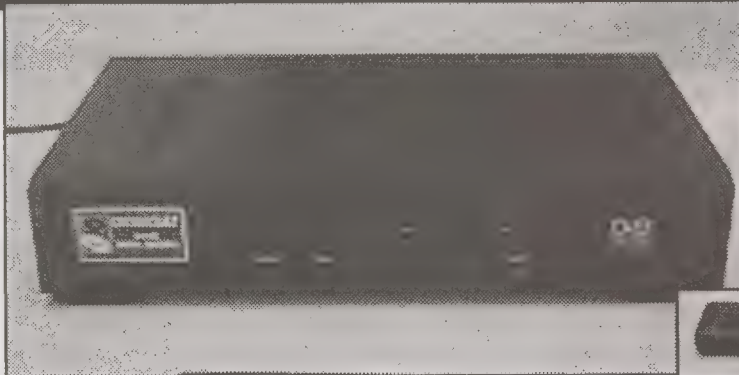
ABA (aggregation of coverage areas, rulings on individual homes - see pgs. 20, 32) Greg Cupit (02-6256-2800) and Nilivan Vonkhorthorn (02-6256-2826). ABC (IRD turn-on) 1300 301 681. Optus (to have BBC WS turned on) 1300-601-381. Imparja (to have service started) 1300-301-683. SBS (to have service started) 1300-301-681. Seven Central (to discuss authorisation) 04-4721-3377. SMA (to have radio channels authorised) 1300-366-099. WIN West (for authorisation) 08-9442-3314. Also - see p. 21 SF#54 for more complete list.



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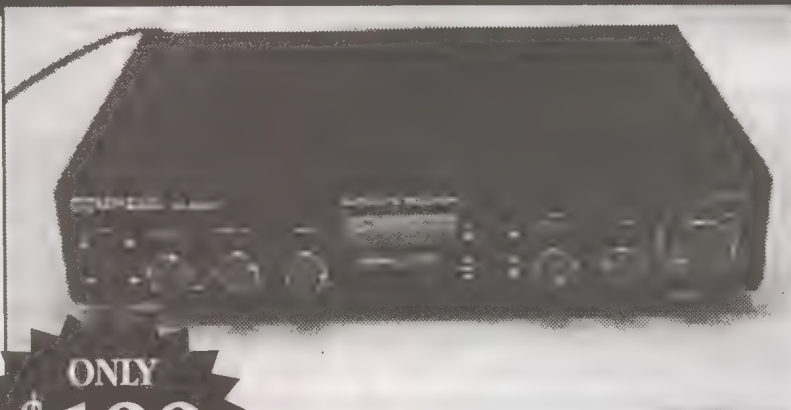
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Determining where "no TV reception" exists

Terrestrial TV functions based upon two rules:

1) The receiving antenna system intercepts sufficient TV wave energy to "drive" the TV set, and,

2) The ratio of received energy to undesirable signals (from other transmitters, from power lines, electrical appliances) is high enough that the image on the screen is "viewable."

"Viewable" is a qualitative measurement. Someone deeply engrossed in a Rugby test match will be mildly disturbed but not distracted by interference that mars the reception while another person trying to follow a golf match will be more than slightly upset when they cannot locate the golf ball buried in the noise on the screen that is marring the reception! With 60 years of terrestrial TV behind us, numerous studies agree that for an AM (amplitude modulated) terrestrial TV signal to be "noise free" requires a signal to noise ratio of at least 40 dB; 45 is better. This is simple maths: The noise level is some

number (call it 20) and to achieve a blemish free picture we need a minimum of 40 dB more signal than the noise. $20 + 40 = 60$ (dBuV).

A TV transmitter operating between 45 and 900 MHz radiates power in a series of straight lines or layers. If you are located within a region that can actually be "seen" from the transmitting aerial, you have "visual line of sight" to the transmitter. There is nothing between the transmitting aerial and the receiving aerial but air and some defined distance. At the point of *visual horizon*, the VHF or UHF signals "scatter" (bend) ever so slightly and for an additional distance they are capable of being received but at reduced signal level. If the visual horizon is 30 miles, the far end of the "bending" region is another ten miles out - 40 miles. This 40 mile point is called the radio horizon. Experience has shown us we can expect certain "average" signal levels, readings taken with an appropriate signal/field strength meter connected to a suitable test antenna, at any point starting at the TV transmitter and ending at the radio horizon.

TV stations, regulators "predict" coverage based upon 60 years of experience. The primary (visual line of sight) coverage region, the secondary (radio line of sight) region can be predicted on paper by making some assumptions. One is that the earth has no bumps (hills) or blockage (tall buildings) that get between the transmitter's aerial and the receiving site. Hills, buildings block signal and while some signal may "leak" over a bump or blockage, it is at greatly reduced signal level from the predicted level.

When a TV station obtains a licence to broadcast, it provides engineering documentation of its "predicted" coverage area (service contours). The regulators take this document and essentially "guarantee" the broadcaster no other licensed station will intrude into its "coverage zone." Both the broadcaster and the regulatory folks conveniently overlook

	45 - 100 MHz	100-230 MHz	450-900 MHz
Visual line of sight	80 dBuV +	80 dBuV +	85 dBuV+
Radio line of sight	60 dBuV	60 dBuV	65 dBuV
Watchable but noisy (*)	45 dBuV	43 dBuV	50 dBuV
Barely watchable (*)	40 dBuV	38 dBuV	40 dBuV
Not watchable (*)	35 dBuV and below	33 dBuV and below	35 dBuV and below

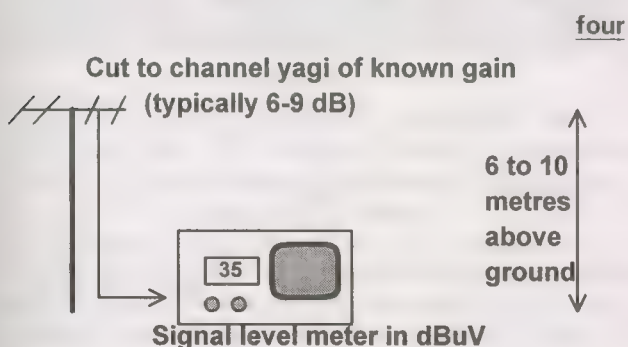
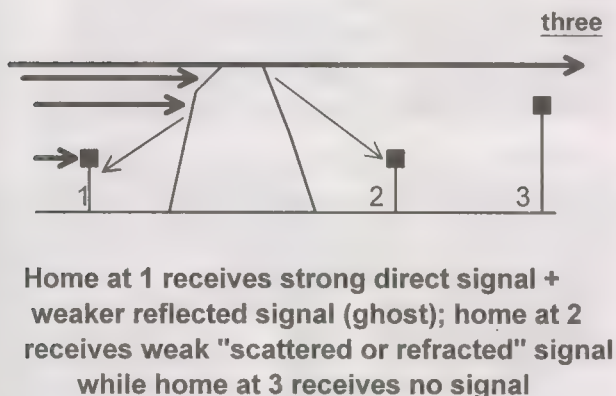
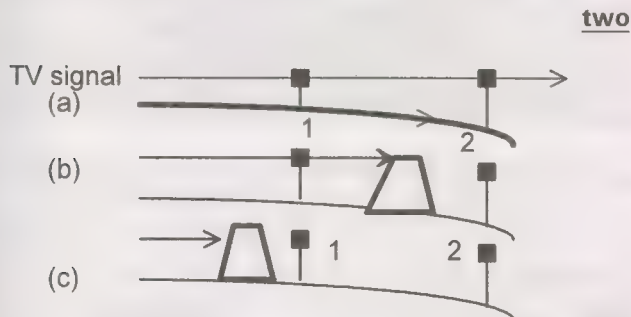
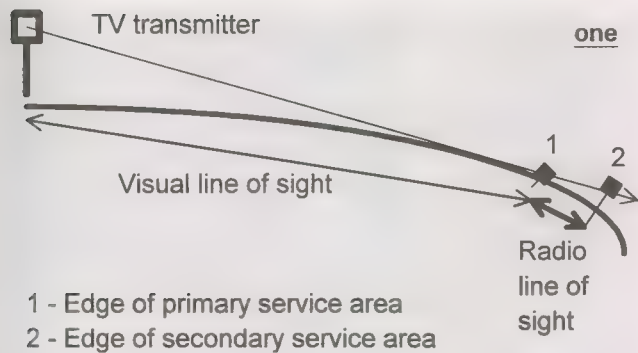
* - signal levels as measured directly from antenna through appropriate matching transformer. No masthead amplifier.

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Membership in SPACE Pacific is open to any individual or firm involved in the "satellite-direct" world in the Pacific and Asia regions. There are four levels of membership covering "Individuals," the "Installer/Dealer," the "Cable/SMATV Operator," and the "Importer/Distributor/Programmer."

All levels receive periodic programme and equipment access updates from SPACE, significant discounts on goods and services from many member firms, and major discounts while attending the annual SPRCS (industry conference) this month in New Zealand. Members also participate in policy creation forums, have correspondence training courses available. To find out more, contact (fax) 64-9-406-1083 or use information request card, page 34, this issue of SatFACTS. Page

space within SatFACTS is donated each month to the trade association without cost by the publisher.



that at least some of the locations inside the visual and radio "zones" will not, in fact, actually receive the signal levels the station has predicted. Sometimes the regulators adopt a "90/50" rule - that ninety percent of the receiving locations inside of the drawn-on-paper coverage area will receive the predicted signal levels 50% of the time. This is all very neat and tidy - on paper. But it misses the reality that 10% of the locations *inside* of the predicted coverage zone won't get a usable signal even 50% of the time. Or that some of the 90% who do get 50% service are not very happy the other 50% of the time when the reception stinks.

Broadcasters who have licenses to transmit "exclusively" over the coverage zones they have predicted on paper zealously guard any intrusion into that zone by another station.

This has the effect of denying alternate service to homes that truly cannot receive adequate reception because the regulators look at the nice, tidy paper coverage maps on file in their office and say - "Of course you can receive 7, 9 and 10 networks - you are located *inside* of this circle!"

In a more perfect world, each and every home (or business) location which is unable to receive adequate terrestrial TV signal would be allowed by the regulators to apply for permission to utilise a secondary delivery mechanism. Satellite service, the Aurora project, comes to mind.

When a home is shadowed from direct reception by an obstacle as in (b) or (c) in diagram two, approval for satellite service should be automatic. When a home has strong direct reception that is badly marred because of ghosting created when the direct signal bounces off of mountains or obstacles around them (diagram 3), approval for satellite reception should be automatic. Without respect to whether the home is inside or outside of a paper predicted model of coverage.

If a home is located below a cross country high voltage transmission line that creates interference to reception - regardless of where the home is located within a service contour, satellite approval should be automatic.

Now - it may be the TV broadcaster who "owns" the area and who's paper map predicts coverage of a specific site will "demand" proof that reception is not possible at a location before agreeing to satellite service. Why should the broadcaster be involved? Good question. If the home requesting satellite service is inside of "his coverage zone," he is doing two things: (1) *admitting* his coverage is not perfect (otherwise why does the home need satellite service?), and, (2) "*losing*" a viewing home which he presently *claims* to cover (stations are paid advertising revenue based upon the number of homes they *claim* - each home "lost" is in theory a financial loss for the broadcaster). All of this adds up to a "negative act" for the broadcaster - he doesn't *want* to grant permission at all! Which may be the best reason why somebody other than the broadcaster should make this decision.

There are some basic terrestrial TV signal level testing procedures which are universal. An antenna of known gain, temporarily erected at a specified height (6 or 10 metre heights are commonly employed) connected to a calibrated signal level / field strength meter - the antenna rotated in azimuth for strongest signal level and a subjective qualitative observation of the reception quality. All of this is written down ("certified") by the measurement person for initial transmittal to the broadcaster who is trying to protect "his patch" and eventual review by the regulator who must assess the application for satellite service.

There is a similar procedure in the United States for receiving the "national network programmes" via satellite. With one major exception - individual measurement tests at each home are not required (nor done). They accept that at least 10% of the homes are badly situated, TV reception is not good, and simply process the applications with only a minor amount of bureaucracy. In fact the satellite TV provider (such as Aurora in Australia) does it all - there is no regulatory agency (FCC) involvement. It is quick, efficient, and someone who wants to be connected to the networks through the "sky" can often get service the very same day.

We are not there yet - this is a brand new trail with few signposts and no history to guide us.

The CABLE Connection



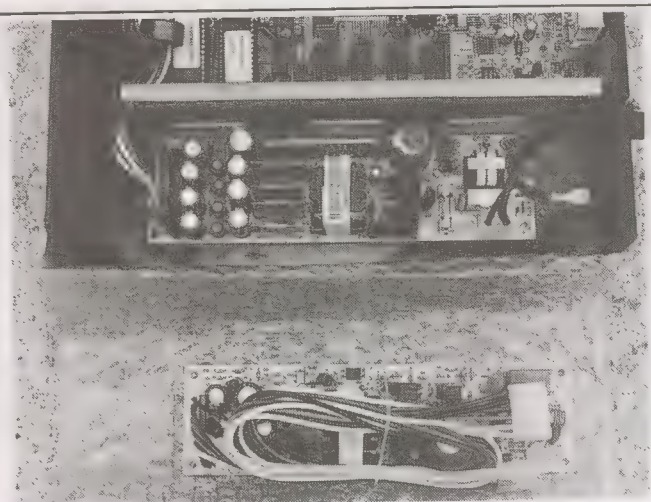
IRD Power Supplies

Satellite receiver power supplies in a mature (i.e., not just released) IRD are responsible for approximately 80% of the shutdown failures (not related to software which is of course another can of worms!). This suggests it would be nice if you were reasonably familiar with the power supply functions and have a basic understanding of when a power supply is the cause of something that goes wrong.

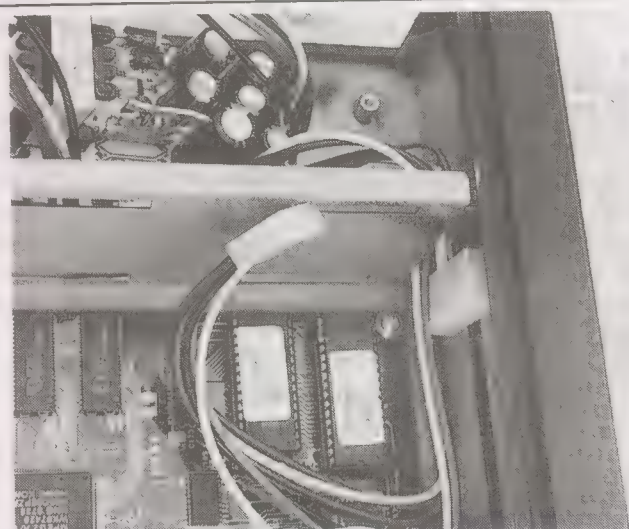
Switch-mode power supplies are a family of designs which have all but captured the IRD marketplace. Many of the power supplies we find in IRDs are not even manufactured by the IRD creator - he goes out into the marketplace and shops around for the least expensive switch mode supply he can locate. The IRD creator is happiest when he locates an existing power supply, already in production, on its own sub-circuit board that can be simply dropped into his cabinet and plugged into the IRD hardware.

Switch mode power supplies are available for a wide range of input operating voltages (90 to 265, for example). The newest UEC IRD, the single chip 700 series unit scheduled for production release in August, claims it will utilise 20 watts of power when operating at 220 VAC (50 hertz). The earlier Panasat IRDs - from which the UECs descend - claimed 50 watts of power consumption. The amount of power consumed is not critical, but does relate to the amount of heat generated. A satellite receiver, like a light bulb, creates heat and the larger that consumption, the greater the heat. As we have noted previously, heat has an adverse effect on electronic parts - some parts change value (a 100 ohm resistor might become a 120 ohm resistor when heated up) and those value changes effect the way the circuits perform. Because an IRD depends upon software to operate, temperature changes inside of an IRD's case can (and does) change the way the software functions. Often the best "cure" for an IRD that is acting strangely is to turn it off for an hour, allow it to cool down to room temperature, and then turn it back on again. All of this says that when UEC (or anyone else) manages to lower the power consumption from 50 watts (Panasat 520) to 20 watts (latest single IC chip design), they have made a major stride towards improved system operational reliability. We compare a sampling of satellite receivers and their power consumption on the next page.

The R3100 free-to-air IRD from AV-COMM is a good example of an IRD which either by design or good luck allows the service personnel to correct for power supply problems with a minimum of time involved. The R3100 in this case had developed what at first appeared to be a software problem; the video would glitch, revert to a menu page and then go into



R3100 digital IRD power supply is nestled along side of chassis area, in its own (shielded) compartment. Shown with original power supply installed - replacement ready to go in (above).

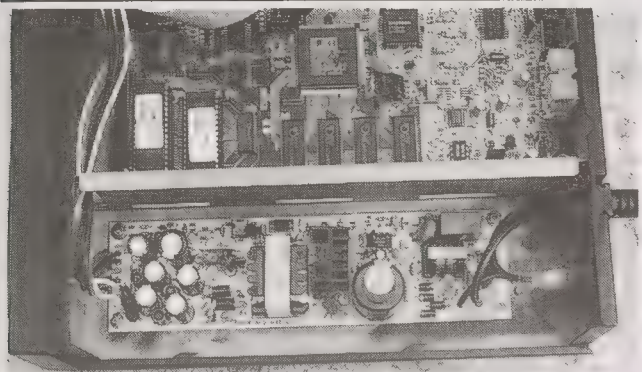


The only slightly tricky part - feeding the plastic connectors through a almost-too-small slot on the shield-wall separating the power supply from the balance of the IRD.

diagonal lines with a pinkish hue. In fact, it was a failure of the power supply which after seven months of operation decided to produce voltages other than was intended. Fortunately, nothing was harmed in the IRD proper. The solution - change out the power supply.

The case open, the power supply is easily identified by its separate compartment and the circuit board that is isolated (physically and electrically) from the balance of the IRD. Safety first - of course you have unplugged the IRD from the mains before opening the top.

Most power supply boards have four to six mounting screws that attach them to the case proper, a slide off pair of finger contacts for the AC mains order connection, and some quantity of cords with plugs attached that carry the IRD operating voltages from the power supply section to the mother board. All of these have to be disconnected; the IRD operating voltage leads are released from plastic tie-down clips, wound backwards to a narrow slot that allows the power lines to pass



Completed job - total elapsed time about 5 minutes.
With new power supply - problem totally solved.

through the shield between the power supply and the receiver proper.

With everything disconnected, take out the mounting screws (small Philips head) and carefully set them aside for use in reinstalling the replacement board.

AV-COMM provided us with a replacement promptly upon learning of our problem and it was an exact physical replacement for the original. All four screws retightened, the AC mains and secondary side leads remated and a smoke test. The IRD promptly came back up as if it had never had a problem - even on the same satellite memory and programme channel. It doesn't get much easier than that.

Sampling of IRD Power Requirements

Brand	Model Number	AC watts consumed
Grundig	GDS200	230VAC, 37w
Hyundai	HSS-700	100-240VAC, 30w
Pace	DGT400/DVR500	185-265VAC, 45w
Pace	MSS100 (anal)	180-240VAC, 18w
Panasat	520	210-250VAC, 50w
Panasat	630	188-264VAC, 30w
SatCruiser	DSR-101	100-240VAC, 25w
Satech	333	84-260VAC, 30w
Scientific Atlanta	D9223	90-264VAC, 63w
Scientific Atlanta	D9225	100-240VAC, 63w
UEC	642	210-250VAC, 30w
UEC	700 series	220VAC, 20w

CTD- Coop's Technology Digest

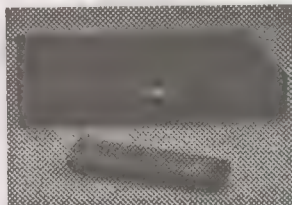
In the March 5th issue -

- ◆ *The Brave Face of PanAmSat* (details of the PAS-8 problems you will find no place else!)
 - ◆ *DVD Reaches Critical Mass*
 - ◆ *15 Hour VHS recorders*
 - ◆ *How DVD rental works* - and what is paid
- Subscription? See form on page 33, here**

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SatFACTS Pacific/Asian MPEG-2 Digital Watch: 15 March 1999

BIRD	Service	RF/IF & Polarity	# Program Channels	FEC	Msym
1703/57E	Sky News (BSkyB feed)	4187/963R 4140/1010R	1 1	3/4 3/4	5(.632) 5(.632)
	Occ. feeds	4055/1095L	1+	3/4	27(.500)
	CNBC	4018/1132L	1	3/4	6(.000)
	CNBC	3795/1355L	1	2/3	6(.000)
1704/66E	TV5. Adult 21	4055/1095R	4	3/4	27(.500)
	Sky News +	3805/1345R	4	3/4	22(.520)
PAS4/68.5E	Nickelodeon +	4147/1003H	1 reported	1/2	24(.000)
	BBC	3743/1407H	5	3/4	21(.800)
	CCTV	3716/1434H	up to 6	3/4	19(.850)
Ap2/76E	HMark/Kermt	3720/1430H	4	5/6	29(.270)
	Baccarat	3836/1314H	1	3/4	3(.184)/6(.111)
	TVB-8 +	3849/1301H	4	3/4	13(.238)
	Disney	3880/1270H	3	5/6	28(.125)
	AXN	3920/1230H	up to 8	7/8	28(.340)
	Vietnam	12.696V	1	3/4	3(.516)
Thcm3/78.5E	ITC	3569/1581H	1	3/4	10(.200)
	MRTV	3666/1484H	1	2/3	4(.442)
	UTV	3920/1230H	6	3/4	26(.662)
	UTV/MCOT	3880/1270H	8	3/4	27(.500)
	Mahar./DD1	3600/1550H	up to 8	3/4	26(.662)
	Myanmar TV	3666/1484H	1	3/4	4(.442)
	TV Maldives	3412/1738V	1	1/2	6(.312)
	Thai Global +	3425/1725V	up to 7	2/3	27(.500)
As2/100.5E	Chinese Tests	12.295.329H	1TV each	2/3, 1/2	6(.103/.930)
(#1)	Euro Bouquet	4000/1150H	6TV, 12r	3/4	28(.125)
	Hubei/HBTV	3854/1296H	1	3/4	4(.418)
	Hunan/SRTC	3847/1303H	1	3/4	4(.418)
	Guan./GDTV	3840/1310H	1	3/4	4(.418)
	Inn Mongolia	3828/1322H	2	3/4	4(.418)
	APTN A-O	3799/1351H	1	3/4	5(.631)
	WTN Jer/Lon	3790/1360H	1	3/4	5(.631)
	WTN/Reuters	3775/1375H	1	3/4	5(.631)
	Reuters M-E	3770/1380H	1	3/4	5(.632)
	Liaoning/Svc2	3734/1416H	1	3/4	4(.418)
	Jiangxi/JXTV	3727/1423H	1	3/4	4(.418)
	Fujian/SETV	3720/1430H	1	3/4	4(.418)
	Quinghai TV	3713/1437H	1	3/4	4(.418)
	Henan /Main	3706/1444H	1	3/4	4(.418)
As2/100.5E	Sky Racing	4020/1135V	3	1/2	18(.000)
	EMTV	4006/1144V	1TV, 2radio	3/4	5(.632)
	KIBC	3940/1210V	1TV, 4 data	2/3	26(.655)
	STAR/ISkyB	3900/1250V	19TVw/3744	7/8	26(.845)
	BSkyB	3865/1285V	8+	7/8	26(.845)
	HeiLongJiang	3834/1316V	1	3/4	4(.418)
	JSTV	3827/1323V	1	3/4	4(.418)
	Shaanxi/QQQ	3813/1337V	1	3/4	4(.418)
	Guang GXTV	3806/1344V	1	3/4	4(.418)

Receivers and Errata
NDS encrypted
FTA (global beam)
Feeds-FTA SCPC
Asia-Europe feeds-FTA SCPC
FTA (Adult 21 Sat 15.30UTC)/east
Sky News 24 hr. sport. feeds FTA?
Testing; also try 26(.000)
FTA; 2 audio channels?
FTA
PowVu typ CA; Kermit temp FTA
FTA (may be off air?)
PowerVu CA
PowVu CA
Tests. promos. some FTA
FTA national service
FTA
FTA; difficult to load
Irdeto CA
Irdeto CA
FTA
FTA - may be only test
FTA (seen Australia)
FTA
FTA (mainland only beam)
FTA
FTA SCPC
FTA SCPC
FTA SCPC
FTA - #1 Chinese, #2 Mongolian
FTA SCPC
Mostly CA SCPC. some FTA
Some FTA SCPC
Some FTA SCPC
FTA SCPC
FTA SCPC
FTA SCPC
FTA SCPC
FTA SCPC
NDS DVS211 CA (ch.3. occ. FTA)
PowVu CA-very poor signal level
FTA 1 video ch; ZakNet data CA
NDS CA (Pace DVS211)
NDS CA (Pace DVS211)
FTA SCPC
FTA SCPC
FTA SCPC
FTA SCPC

BIRD	Service	RF/IF & Polarity	# Program Channels	FEC	Msym
(As2/100.5E)	Fashion TV	3796/1354V	1	3/4	2(.533)
	Eastern TV	3785/1365V	5	3/4	18(.000)
	Myawady TV	3766/1384V	1	7/8	5(.080)
	STAR/SkyB	3744/1406V	35TVw/3900	7/8	26(.845)
	Star TV Sports	3700/1450V	5	3/4	27(.500)
Gz 25/103E	STS TV	3720/1430R	1	3/4	6(.500)
Cak1/107.1E	Indovision S- band	2.536, (.566, .596, 2.626)	up to 8 per transponder	5/6	20(.000)
Sinoat 1/110E	TVB Jade	4106/1044V	1	2/3	4(.443)
C2M/113E	TPI	4194/956V	1	3/4	6(.700)
	TV Indosiar	4073/1077V	1	3/4	6(.500)
	Mega TV	3780/1370V	5?	3/4	27(.500)
	C Net Taiwan	3760/1390H	10TV, 10 r	5/6	21(.091)
	RCTI	3473/1677H	1	3/4	8(.000)
API/138E	Reuters	3732/1418V	1	3/4	5(.632)
	Reuters	3742/1408V	1	3/4	5(.632)
	Taiwan Bqt	3800/1350H	up to 8	3/4	26(.697)
	MTV	3860/1290V	1	3/4	3(.000)
	Laos Nat. TV	3924/1226V	1	3/4	2(.522)
	CNNI	3980/1170V	2+	3/4	26(.000)
Optus B3/156	Aurora	12.595V	17+, 21+ rad.	3/4	30(.000)
	Aurora	12.407V	17+, 21+ rad.	2/3	30(.000)
	Austar/Foxtel	12.438(.564, .626, .688)	45+TV, 12 radio	3/4	29(.473)
Optus B1/160	Sky NZ	12.391(.418)V	18TV	3/4	22(.500)
	Imparja feed	12.367H	1	3/4	5(.424)
PAS-8/166E	NHK Joho	4065/1085H	5 TV, 1 radio	3/4	26(.470)
	Cal Bqt/PAS8	3940/1210H	3 or 4 TV	7/8	27(.686)
PAS-2/ 169E	GWN Perth	12.265V	6TV, 7 radio	1/2	16(.200)
	Telstra Bend.	12.300V	2	1/2	21(.997)
	Yumin/Taiwn	12.325V	1+	3/4	8(.888)
	ABC Interchange	12.629, (.638, .646)V	1 TV each	3/4	6(.980)
	Mediasat	12.655V	1TV	1/2 & 3/4	6(.610)
(#2)	HK PowVu	4148/1002V	up to 8	2/3	24(.430)
(#3)	NBC HK	4093/1057V	5 typical	3/4	29(.473)
	JET Singapore	3962/1188V	2	1/2	13(.740)
	Feeds	3942/1208V	1 or 2	2/3	7(.497)
	ESPN USA	3860/1290V	7TV, 2 data	7/8	26(.470)
(#4)	Middle East	3778/1372V	4	3/4	13(.331)
	Service 1	3761/1389V	1	3/4	6(.620)
(BBC temp)	BBC + TFC	3743/1407V	5	3/4	21(.800)
(#5)	CCTVPowVu	3716/1434V	5 typical	3/4	19(.850)
	Feeds	4189/961H	1 or 2	7/8	6(.600)
	TCS-Singap.	4183/967H	2	1/2	6(.620)
	Feeds	4138/1012H	1	3/4	6(.620)
(#7)	NHK Joho	4035/1115H	5TV, 1 radio	3/4	26(.470)
	CNNI HK	3996/1154H	1TV	3/4	9(.998)
	Feeds	3967/1183H	1+	2/3	6(.618)
	PAS-2 feeds	3939/1211H	2 (NTSC)	2/3	6(.620/7.498)
(#8)	Cal PowVu	3901/1249H	up to 8	3/4	30(.800)

Receivers & Errata
Temp FTA- see notes p. 6 Jan.
PowVu CA #5 FTA: off-air?
FTA SCPC - difficult
NDS CA (Pace DVS211)
NDS CA (Pace DVS211)
Pgming +7hrs Moscow
RCA/Thomson IRD. Now more dependable operation
FTA SCPC-difficult to load
FTA SCPC
FTA SCPC, maynot be permanent
unknown encryption format
all TV now CA
FTA SCPC
FTA SCPC
FTA SCPC
FTA SCPC
FTA SCPC
CNN FTA
CA, \$50 smart card required
CA, \$50 smart card required
DGT400 CA except #29 (TVSN)
NDS CA, 12.391 primary
may be temp feed to Aurora
1CA (D9234), 4 FTA
mixed CA + FTA (EWTN)
PowVu CA (D9234)
PowVu typ. CA (D9223 only)
reported FTA-China beam
format PowVu, nominally FTA: except 0000-0400UTC wkdays
FTA, occassional service, feeds
PowVu, mostly CA, some FTA
Philips mux format FTA
PowVu CA
FTA occ. feeds
PowVu CA: avoid #8.9 w/9223!
FTA -hard to load
occ feeds, FTA SCPC
PowVu; CA and FTA (BBC#3)
FTA (# pgm chs varies)
Test cards, may be feeds
PowVu FTA/sig reported down?
FTA SCPC
1 CA (D9234), 4 FTA to 30/04/99
FTA - occasional feeds
FTA - occasional feeds
FTA (NBA, shuttle-typ NTSC)
Some CA, some FTA (NTSC)

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PAS-2/169E	Disney	3804/1346H	3	5/6	21(.093)
	Discovery Sing	3776/1374H	8	3/4	21(.093)
	Satcom 1-6	3743/1407H	6	7/8	19(.465)
I702/177E	AFRTS	4177/973L	8TV, 12r.+	3/4	26(.694)
	Thai Bouquet	12.650H	up to 3 TV	1/2	17(.800)
I701/180E	TVNZ Gennet	4195/955R	1 (CA)	3/4	5(.632)
		4186/964R	BBC/Gennet	3/4	5(.632)
		4178/972R	1 (CA)	3/4	5(.632)
		4170/980R	APTIN-Tokyo	3/4	5(.632)
		4120/1030R	1	3/4	5(.632)
(#9)	RFO-Canal+	4095/1055L	7TV, 5+ radio	3/4	27(.500)
	SPN Nauru	4081/1069R	1	3/4	4(.730)
	Baccarat	4028/1122R	1	5/6	3(.702)
	NZ Prime TV	4024/1126L	1	2/3	6(.876)
	Network 7	3966/184L	1	7/8	6(.446)
	RFO direct	3858/1292L	1	3/4	4(.566)
	TVNZ TL	3854/1293R	1	3/4	5(.632)
	TVNZ	3856/1294R	1	3/4	5(.632)
	TVNZ	3846/1304	1	3/4	5(.632)
	10 Australia	3765/1385R	6	7/8	29(.900)

PowVu (D9234) CA
PowVu (D9234) CA
PowVu(D9234) CA
PowVu (D9234) CA
FTA, replaced Space TV
DMV/NTL CA, all channels occ. use, FTA irregular around special event coverage
<was MTV Europe>
Canal + (2) CA, rest FTA
FTA SCPC; weak signal
FTA SCPC; NTSC, short hrs
PowVu CA; network feeds
SCPC FTA NTSC f/USA
East hemi beam to Tahiti
SCPC mixed FTA, CA feeds
SCPC mixed FTA, CA feeds
SCPC mixed FTA, CA feeds
PowVu CA; #5,6 occ FTA

Bouquets: MCPC (multiple [program] channels per carrier) MPEG-2 content frequently changes. Primary FTA (free to air) MCPC bouquets are as follows: 1) European Bouquet: (1) Deutsche Welle, (2) MCM, (3) RAI International, (4) RTVE (Spain), (5) TV5 Paris + up to 17 radio (some stereo) - see p. 2; 2) Hong Kong PowVu: (5) Ad Hoc NTSC feeds, (6) Ad Hoc PAL feeds: (3) NBC HK (Hong Kong): (1) CNBC Asial, (2) CNBC Australia, (3) National Geographic [English], (4) CNBC India, (5) National Geographic [subtitled Taiwan], (6) Occ feeds, (7) CNBC test card-feeds: (4) Middle East [testing], (1) Antenne 1, (2) Lebanon LBC, (3) ART Australia, (4) RAI Australia; (5) CCTV PowVu: (1) CCTV4, (2) CCTV3, (3) CCTV 9, (4) test bar, (5) CCTV1: (7) NHK JoHo: (1) NTSC Japanese, (2) NTSC English, (3) PAL Japanese, (4) PAL English, (5) NHK Radio, (6) NHK Premium: (8) Cal PowVu: (1) CMT [NTSC], (2) Ad-hoc [NTSC], (3) BBC[NTSC], (4) EWTN + Global Catholic Radio [to 24/03/99], (5) Ad hoc feeds, (6) Bloomberg Financial [NTSC], (7) Golf Channel [NTSC], (8) Discovery; (9) RFO-Canal+: (1) Canal+ [Polynesia], (2) Canal+ [New Caledonia], (3) test, (4) test, (7) TOM1, (10) TOM2, (13) TOM3 + radio on 5,6,8,9,11,12,14,15.

MPEG-2 DVB Receivers: (Data believed accurate; we assume no responsibility for correctness!)

AV-COMM R3100. FTA, excellent sensitivity (reviewed SF May 1998). Av-Comm Pty Ltd., tel 61-2-9949-7417
 Grundig DTR1100. Mfg by Panastat S. Africa, similar to Panastat 630; out of production, Irdeto capable (see AV-Comm. above)
 Hyundai-TV/Com. HSS-100B/G (Pacific) and HSS-100C (China) FTA. Versions 2.25/2.26 good performers, 3.11 currently offered and those with Nokia tuners good performers. Version 5.0 not so good. SATECH ([V2.26] 61-3-9553-3399), Skandia ([V3.11] 61-3-9819-2466); Skyvision Australia ([V3.11, Nokia] 61-2-6292-5850).
 Hyundai HSS700. FTA, PowerVu, search. SCPC/MCPC. (Kristal Eletronics 61-7-4788-8906) [New February 1999; review this issue]
 MediaStar D7. FTA, preloaded with known services, exc. software (review SF July 1998). MediaStar Comm. Int. (61-2-9618-5777)
 Nokia "d-box" (V1.7X). European, FTA, typically German menu, capable of "Dr. Overflow" Internet updates. **Caution on this one!**
 Nokia 2000S (Asia/Pacific). Released Oct. 1998; equipped with CAM/PCMCIA slot, capable of Irdeto, others (factory will NOT supply CAMs at this time); no Asia-Pacific sources known at this time (but readily available through European sources); review 11/98.
 Nokia 9200/9500/9600/9800. FTA. factory software does PowVu poorly, but has significant Internet software support. Ultimate play-around hobby machine but not consumer friendly. Original V1.63 had unique ability to search entire satellite to locate and list all SCPC/MCPC services; latest (V5.X software) versions compatible with Dr. Overflow (V8.X) software from Internet. CI (common interface) versions available in Europe, do not presently allow Irdeto however. No Pacific/Asia support; help from Av-Comm (61-2-9949-7417), and software from www.BAKKERELECTRONICS.COM.
 PACE DVS-211. NDS CA only (no FTA); Sky Racing (As2), Indovision, others. (Sky Racing - Eileen McCarthy 61-2-9451-0888)
 PACE DGT400. Original Galaxy (now Foxtel Sat/Austar) Irdeto, FTA with difficulty. (Foxtel Australia 1300-360818).
 PACE DVR500. Original NBC affiliate Irdeto; FTA or Irdeto (w/CAM). Similar to DGT400, more reliable. No sources.
 PACE "World Box." (DSR-620) Created for NDS non-DVB compliant MPEG-2, including Sky NZ. Info, ++49-211-526-9833.
 Panastat 520/630/635. MCPC FTA, Irdeto capable. Out of production; spares from UEC (fax ++27-31-593-370, Russell Futter).
 Panasonic TU-DS10. FTA, Irdeto CA. (see SF Aug. 1998). Aurora, (Antares 61-7-3205-7574; Evcom 61-2-9316-5055).
 Phoenix 222. FTA, PowVu. Exceptional graphics, ease of use. (SATECH 61-3-9553-3399)
 Phoenix 333. FTA MPEG-2, analogue, positioner. Detailed review SF Nov. 1998. (SATECH 61-3-9553-3399).
 PowerCom. FTA, PowVu, exc. sensitivity. (NetSat 61-2-9687-9903)
 PowerVu /PowVu D9223, 9225, 9234). Non DVB compliant proprietary format capable MPEG-2 FTA with optional software. 9234 sold for GWN and NHK JoHo PAS-2, EMTV As2, CA access; others for various CA services. (Scientific Atlanta 61-2-9452-3388)
 Praxis DigiMaster 9600 MKII/9800AD. FTA, PowVu + analogue.; (Skyvision Australia 61-2-6292-5850; Telsat 64-6-356-2749)
 Praxis 9800 ADP. FTA, PowVu, analogue, positioner. Review December 1998. (Skyvision Australia 61-2-6292-5850)
 Prosat 2102S. FTA, NTSC + PAL, SCART + RCA. (Sciteq 61-8-9306-3737)
 SatCruiser DSR-101. FTA, PowVu, NTSC + PAL. (Skyvision Australia 61-2-6292-5850; Telsat 64-6-356-2749)
 SK888. (aka DigiSkan from Sun Moon Star). FTA MCPC, Irdeto CAM capable. (Skandia 61-3-9819-2466)
 UEC 642. FTA, Irdeto built-in, for Aurora + Optus DTH. ("Mondec" rack mount industrial version) (Nationwide 61-7-3252-2947)
 UEC 660. Primary user is Australian Sky Channel; not consumer item (info from but not available at Nationwide 61-7-3252-2947)
 YURI HSS-100C. FTA, rebadged Hyundai V.2.27 software custom to Australia (Nationwide 61-7-3252-2947)

SatFACTS Pacific/Asian FTA ANALOGUE Watch: 15 Mar. 1999

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BIRD / Location	RF/IF & Polarity	Service	Errata
I703/57E	3755/1395R	Sun Music	
	3798/1352R	RTNC	
	3980/1170R	AsiaNet	
	4055/1095R	WorldNet	VOA subcar.
	4125/1025R	TVi	
	4175/975L	Muslim	
I704/66E	3765/1385R	Tests	
	4015/1135L	Mongolia	(Secam)
PAS4/68.5E	3743/1407V	RTPi	
	3840/1310V	Home Ch.	(may be off)
	3864/1286V	BBC World	
	3910/1240H	Sony TV	Hindi
	3907/1243V	Maharishi	
	4034/1116V	Doordan	
	4085/1065H	CNNI	
	4110/1040H	TNT/Cartoon	
	4113/1037V	Series Ch.	
	4185/965H	MTV	
	3470/1680V	Test Signal	
Ap2R/76E	3745/1405H	Vasta Music	P5 NSW
	3760/1390H	AXN card	
Thaic3/78E	4155/995V	DD12 Pal	Asian beam?
	3871/1279H	TVT	
	3760/1390V	Army TV	
	3690/1460V	MRTV	
	3685/1465H	Mynamar	
	3635/1515V	RAJ-TV	Tamil
	3616/1534V	ATN	
	3576/1574V	ATN Bangla	Bengali
	3554/1596V	RAJ Plus	
	3536/1614V	Punjabi TV	Punjabi
	3672/1478L	TK Rossija	(north only)
Exp. 6/80E	3875/1275L	VTv4+	(north only)
	3925/1225L	ACT/TB3	(north only)
	4125/1025L	Russia 3	(north only)
	4025/1125L	Prometei AST	(north only)
	3875/1275H	occ. feeds	P4 NSW Ntsc
CIS S6/90E	3675/1475R	RTR I	P3 NSW
	3875/1275R	Orbita I	
	3916/1234R	RTR II	
	3935/1215R	Orbita II	

March Alert

IF - if AsiaSat 3S goes off March 18th as now scheduled, there could be test signals before our next deadline. Remember - As3S covers 3.6 to 4.2 GHz - 100 MHz expanded down (see Tr list p. 28). PAS-8 Ku "scientific" tests scheduled March 18th onward to Australia pending resolution of licensing problems (see P. 29, "At Deadline").

MeSat-1/91.5E	3710/1440H	VTv 1,2, 4	
	3880/1270H	RTM-1	
Insat2B/93.5E	4163/987H	India Metro	Aust on 3.7m
	4128/1022V	Ind. National	Aust on 3.7m
	4070/1080H	India DD9	
	4080/1070V	DD7 (Tamil)	
	3970/1180V	DD9 (kan)	
	3882/1268V	India DD1	
	3840/1310V	India DD	
	3762/1388V	India DD4	
CIS-S20/96.5E	3675/1475R	ORT	(this satellite
	3825/1325R	Madagascar +	may be out
	3875/1275R	Test Card	of service)
AsSat2/100.5E	3642/1508H	ERTU Egypt	
	3660/1490V	Test Card	
	3680/1470H	Feeds/Iran	
	3860/1290V	Feeds #	
	3885/1265H	WorldNet	VOA Subcar
	3960/1190H	CCTV4	
	3980/1170V	RTPi	Radio Subcar.
CIS S21/103E	3675/1475R	RTR	
	3875/1275R	Vrk.Apt	
PalB2R/108E	4000/1150H	TVRI	
PalC2/113E	4183/967V	TPI/TVRI	
	4160/990H	(France) TV5	
	4140/1010V	Brunei, feeds	
	4120/1030H	MTV Asia	
	4080/1070H	Herbalife	2100HK/NTSC
	4040/1110H	CNBC	
	4020/1130V	ANteve	(left air?)
	3970/1180V	CNNI	(was 3980)
	3960/190H	MCM Asia	
	3900/1250V	Malaysia TV3	now encrypted?
	3880/1270H	Aust. ATN7	
	3765/1385H	NBC, CNBC	Feeds, Herbalif
	3742/1408V	RCTI	English subcar
AsSat-G/122E	3675/1475L	Moscow 6	Very powerful
G'zont29/130E	3675/1475	test sig	+3775.3875
Ap1A/134E	3820/1330H	CETV SD	

UPCOMING SATELLITE LAUNCHES

AsiaSat 3S to 105.5E - Now March 18 (C + Ku)
 Chinasat 8 115.5E- Now "late March" . Ku + C
 Insat 3A to 74E - now scheduled "March". C + Ku
 Orion 3-139E- Two possible dates- April 6, May 1
 Insat 2E (APR) to 83E - "April". 17 C
 NSS K-TV to 95E - April 28 (HP Ku)
 Telkom 1 to 108E - now June, replace B2R
 Asiasat (1452-1492 L-band) to 105E- 'July'
 LMI 1 to 75E - August. HP Ku
 Koreasat 3 to 116E - August (HP Ku, replace K1)
 Express A3 to 80E - September. C + Ku
 GE1A to 97E - October (HP Ku)

53.2	55	57	66	68.8	76	78.5	80	87.5	88	93.5	93.5	96.5	100.4	103	105.5	107.1	108	110.5	113	120
S27	2DT	1703	1704	PAS4 PAS7	Ap2	Th3	Ex2	Cs1	St1	Me-1	In2B	S20?	As2	S21	As1 (As3)	Ct1	B2R	Ss1	C2	Th1 2
C	C	C	C	C	C	C	C	C,Ku	C	C,Ku	C	C	C,Ku	C	C	"S"	C	C,Ku	C,Ku	C

122	128	134	138	(139)	140	145	146	148	151	152	156	160	161?	166.5	169	174	177	180	177	148
As-G	Jc3	Ap1a	Ap1	Or3	S7	S16	Ag2	Me2	C1	A3	B3	B1	Mb1	PAS8	PAS2	1801	1702	1701	IF3	Es4
C	C,Ku	C	C	C,Ku	C	C	C,Ku	C,Ku	C	Ku	Ku	Ku	C	C,Ku	C,Ku	C	C,Ku	C	C,Ku	Ku

Ap1A/134E	3900/1250V	CETV2	
	3980/1170V	CETV1	
Ap1/138E	4160/990H	CCTV7	
S7/140E	3675/1475R	Test Card	mod. inclined
S16/145E	3675/1475R	ORT	high inclined
	3875/1275R	Feeds, tests	high inclined
Ag2/146E	3787/1363H	GMA	poor s. eqtor
Me2/148E	4080/1070H	test card	occ use
C1/150E	4160/990H	TPI	occ. use
PAS8/166.5	3780/1370H	CNNI	// PAS2
PAS2/169E	3940/1240V	CNNI	1/2 Tr format
1802/174E	4166/984R	Feeds	
	4177/973R	Feeds	
1702/177E	4166/984R	Feeds	KBS Korea
	4187/963R	Feeds	Feeds
1701/180E	3810/1340R	Feeds	
	3841/1309L	RFO	East beam
	3845/1305R	Feeds	inc. USA
	3930/1220R	USA Feeds	Typ encrypt.
	3975/1175R	Feeds	
	4060/1090L	Feeds	
	4130/1020L	Feeds	

Optus B3 at 156E / Ku only

12.688/1388H	Austar MPEG	Irdeto CA IRD	list p 28, Feb
12.658/1358V	ABC west	BMAC RABS	should be off
12.626/1326H	Austar MPEG	Irdeto CA IRD	list p.28, Feb
12.595/1295V	Aurora MPEG	Irdeto RABS	see p. 15.18
12.564/1263H	Austar MPEG	Irdeto CA IRD	list p. 28, Feb
12.532/1232V	Aurora MPEG	Irdeto RABS	see p. 15. 18
12.530/1230V	Herbalife	10-1200 UTC	NZ beam
12.438/1138H	Austar MPEG	Irdeto CA IRD	list p 28, Feb
12.407/1107V	Aurora MPEG	Irdeto RABS	see p. 15. 18
12.340/1040H	Imparja	BMAC RABS	may be off

Optus B1 at 160E / Ku only

12.730/1430H	RHEF, NZ feeds	typ FTA anal.	occ use
12.677/1377H	QSTV	BMAC RABS	until 06/99?
12.670/1379V	SE ABC	BMAC RABS	until 06/99?
12.644/1344V	SE ABC	BMAC RABS	until 06/99?
12.639/1339H	NE SBS	BMAC RABS	until 06/99?
12.613/1313H	NE ABC	BMAC RABS	until 06/99?
12.596/1296V	Sky Racing	BMAC	
12.576/1276H	ABC Radio	digital	
12.570/1270V	OmniCast		FM/FM
12.547/1247H	ABC feeds	typ analogue	occ use
12.520/1220H	Net 9 feeds	typ. BMAC	
12.518/1218V	Sky NZ	NDS MPEG	Pace DSR-620
12.482/1182V	Net 10 feeds	typ. E-PAL	
12.480/1180H	Net 9 feeds	typ E-PAL	
12.455/1155V	Net 10 feeds	typ analogue	
12.451/1145H	Occ feeds		
12.448/1148H	Herbalife	10-12UTC	now off? see B3
12.391/1091V	Sky NZ	NDS MPEG	Pace DSR-620
12.376/1076H	Aurora tests	MPEG-2	may be off

Oddball Formats

PAS-4/68.8	3785/1365V	Discov. India	rptd BMAC
PAS-4/68.8	3860/1290H	ESPN Indian	rptd. BMAC
Ap2/76E	3960/1190H	HBO Asia	GI Digiciph2
C2/113E	3930/1220H	Fil. Peo Net	GI 1.5 MPEG
PAS2/169E	3836/1314H	ABS/CBN	GI 1.5 MPEG
PAS2/169E	3989/1161V	Fox/Prime	Sal.5MPEG

AsiaSat 3S Transponders

1A-3660/1490Vt, 1B-3640/1510Hz, 2A-3700/1450Vt, 2B-3680/1470Hz, 3A-3740/1410Vt, 3B-3720/1430Hz, 4A-3780/1370Vt, 4B-3760/1390Hz, 5A-3820/1330Vt, 5B-3800/1350Hz, 6A-3860/1290Vt, 6B-3840/1310Hz, 7A-3900/1250Vt, 7B-3880/1270Hz, 8A-3940/1210Vt, 8B-3920/1230Hz, 9A-3980/1170Vt, 9B-3960/1190Hz, 10A-4020/1130Vt, 10B-4000/1150Hz, 11A-4060/1090Vt, 11B-4040/1110Hz, 12A-4100/1050Vt, 12B-4080/1070Hz, 13A-4140/1010Vt, 13B-4120/1130Hz, 14A-4180/970Vt, 14B-4160/990Hz

Note: Those underlined are active on AsiaSat 1 and should fire-up automatically on As3S when it turns on.

Orion 3 Frequency Use

C-band service will be 10 transponders (5 each vertical and horizontal) in the expanded C-band region of 3.4 to 3.6 GHz. Ku-band service is split between two frequency bands - 11.450 - 11.700 and 12.250 - 12.750 with a total of 33 transponders.

WITH THE OBSERVERS

The scheduled launch of AsiaSat 3S to 105.5E presents an unusual opportunity for observers. The scheduled launch time - subject to last minute changes - is around midnight UTC on March 18. There is no word whether the satellite will go directly to 105.5E for testing, or, to a secondary location for testing and commissioning and then be returned to 105.5E. If you have registered your Email address with SatFACTS (see p. 34), we will endeavour to alert you when this information is known. Testing could begin on or just before April 1 - AsiaSat with their #2 was very quick to go from launch to testing.

3S essentially duplicates the coverage of AsiaSat 2 but with the added advantage of slightly higher look angles for Australia, NZ and the Pacific. When this satellite takes over from AsiaSat 1 at the same location, the services previously on As1 and not visible outside of Asia will suddenly appear here (at As2 levels). A table (below) shows the current loading on As1 as a guide to what to expect from As3S. (For newcomers - the "S" means this is a replacement satellite since the original

AT PRESS DEADLINE

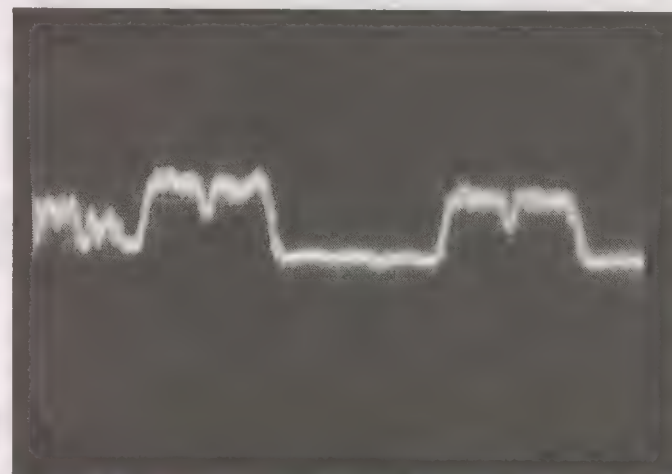
Here it is - "semi-official reason" why PAS-8 Ku to Australia is not operating. Seems original orbit spot (166.5E) was cleared for interference with Australian Optus birds, final location 166.0E was not. Australian ACA will NOT allow it to turn on - even for tests - until licensing procedure is completed. How long? "Not for some time yet." But "scientific tests" may be allowed as early as March 18 but no commercial use "soon."



HBN (Herbalife Broadcasting Network) is widely available on several satellites 3 days a week. Below, current spec an display of NZ Sky TV digital package.

AsiaSat 3S Starting Point from AsiaSat 1 Loading

C-band	Service	Detail	C-band	Service	Detail
3780Vt	Star TV	digital			
			3800Hz	Star Sports	NTSC analog
			3840Hz	Ch [V]	NTSC analog
			3880Hz	Star TV	digital
			3920Hz	Phoenix Chinese	NTSC analog
3940Vt	Zee India	PAL analog			
			3960Hz	Star World	NTSC analog
3980Vt	Zee TV	PAL analog			
4060Vt	Zee Cinema	PAL Starcrypt			
4100Vt	PTV 2	PAL analog			
			4120Hz	CCTV 4	NTSC analog



"3" failed to launch properly back in December 1997). AsiaSat 1 has been essentially "owned by" Star TV Asia - 3S will for the first time take on competitive users (broadcasters who compete with Star TV for audience). If everyone moves from where they are to As3S, there are plenty of new transponders to be occupied as the table to the left shows. There are eight available new transponders on vertical (3740, 3820, 3860, 3900, 4020, 4140 and 4180) and seven on horizontal (3720,

WITH THE OBSERVERS: Reports of new programmers, changes in established programming sources are encouraged from readers throughout the Pacific and Asian regions. Information shared here is an important tool in our ever expanding satellite TV universe. Photos of yourself, your equipment or off-air photos taken from your TV screen are welcomed. TV screen photos: If PAL or SECAM, set camera to f3.5-f5 at 1/15th second with ASA 100 film; for NTSC, change shutter speed to 1/30th. Use no flash, set camera on tripod or hold steady. Alternately submit any VHS speed, format reception directly to SatFACTS and we will photograph for you. Deadline for April 15th issue: April 3 by mail (use form appearing page 34), or 5PM NZT April 5th if by fax to 64-9-406-1083 or Email

Skyking@clear.net.nz.

Housekeeping - Staying in Touch

This is the status of three new, "extra" projects at SatFACTS and SPACE Pacific.

SPACE Pacific Report - the TV show. Transferring older NTSC format 3/4" U-Matic tapes has turned into a much bigger project than we anticipated. It is going ahead, but at about 1/4 the speed we had planned. The first TV Show will now air after mid-April on KIBC (AsiaSat 2). We will advise air dates and times here and through our SatFACTS Email connection (see below).

SPACE Pacific Web Site: Progressing but also more slowly than we had hoped. New target date is May 1.

Email Advisories: We tested our Email advisory service to more than 900 readers (boy - did they love us at clear.net.nz!!!) February 28th - approximately 7% of the addresses came back as invalid. If you have registered and did not receive our "test," use the card on page 34 of February SatFACTS to re-register. We will next use this service when we have test details of AsiaSat 3S.

3760, 4000 and 4160); see list p. 28. The existing "1" services to move to 3S present some interesting *first-time* available services to the Pacific region - including Phoenix Chinese (3920 Hz, NTSC analogue), Zee India (3940 Vt) and Zee TV (3980 Vt - we are not certain what the difference between the two may be), and PTV 2/ PTV World which is the Pakistani national service (4100 Vt).

The Star TV services have been in a state of transition (from free to air analogue to NDS conditional access digital) since last June, and those that are listed here still in FTA analogue format are unlikely to remain that way much longer. They include Star Sports (3800 Hz), Channel [V] North Asia (3840 Hz), Star World North (3960 Hz). Zee Cinema (4060 Vt) is presently StarCrypt encoded (analogue) and likewise may not stay available even in this format much longer.

As the loading of AsiaSat 3S becomes more apparent, SF will include the new services in our respective digital and analogue tables. Observations of As3S are of course very much requested for a full report in a future (perhaps May) issue of SatFACTS; see special card on page 34. And for a full As3S transponder list, see p. 28.

ApStar 2R/76E: Hallmark (Kermit) has changed digital settings for PowerVu IRDs on this service - now Msym 29.270 and FEC 5/6 on 3720/1430Hz. VATS (music channel) 3745/1405Vt reported "strong" in NSW (**D. Leach**).

AsiaSat2/100.5E: Sky (racing) Channel (Australia) Bob Pankhurst has resigned from post of International Sales Support and if you need support for this service, contact Eileen McCarthy at tel ++61-2-9451-0888 and fax ++61-2-9972-7681. Sky, by the way, has 5,500 B-MAC decoders and a B-MAC uplink encoder they will give away - free - to a "good home."

Express/80E: Digital tests on 4080/1070RHC may only be visible to north (Msym 12.018, FEC 3/4).

Gorizont 21/145E: ORT is now on 3675/1475RHC, SECAM with audio on 7.0. Bird is highly inclined.

Intelsat 701/180E: Short lived - Fashion TV and MCM are gone from RFO bouquet (4095/1055LHC), replaced by French Globe/Telecom promotions. Something is likely to happen here - watch it. NBC feeds on 3962/1188LHC (also reported 3966/1184) Msym 6.448, FEC 7/8. 3930/1220RHC vidiplex



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service still turns off encryption on occasion, especially on weekends and around 0000-0500 UTC weekdays.

Palapa C2: TV3 (Malaysia), 3900/1250Vt, on and off again encrypted. RCTI digital has moved to 3473/1677Hz (Msym 8.000, 3/4), P5 in NZ. TPI has switched to 4194/956Vt digital FTA (Msym 6.700, FEC 3/4). MCM Asia is bouncing around, reported 3720/1430 and 3960/1190Hz FTA PAL. Strong colour bar tests seen 3555/1595Hz (D. Leach, NSW).

Optus B3: Installer menu access PIN numbers for SMS IRDs - there are two versions (but only one model number); 2826 is one, 2878 is the other. Austar subscribers reportedly will have 6 - 7 new optional services on April 1, extra \$10.95 monthly. Optus March 5 advising Aurora viewers to call 1300-301-681 if they still need to be authorised for SE services and/or Queensland SBS. One method of getting WIN (Western Australia) "switched on" - tell them you are in a Caravan travelling around Australia, spend most of your time "in the west!"

Orion 3/139E: SF for February reported (p. 2) planned C-band service including 4 FTA and 2 CA (French language) services, one to be "adult." Upon further investigation, SF now believes this project is very unlikely to happen and Orion - the satellite operator - insists there is no contract and there has been no contract offered to this firm.

PAS2/169E: NBC bouquet 4093/1057 now back to 7 programme channels: (1) CNBC Asia, (2) CNBC Australia, (3) National Geographic, (4) CNBC India, (5) National Geographic Taiwan, (6) feeds, (7) CNBC test card (and feeds from USA). You may need to reload this - again. CCTV Bouquet (3716/1434Vt) has added CCTV1 (national terrestrial service) (**Opac, NSW**). Feeds in FTA analogue continue on 4000/1150Hz and 4025/1125Vt.

PAS8/166E: CNNI has appeared on 3780/1370Hz, P5 on 3m (**Mathews, NZ**). **Note:** Rumours that it will go digital, possibly CA are not apparently true - at this time, but - they have launched 6 channel MPEG-2 FTA package on PAS-3 for South America that includes CNNI, CNN Financial and CNN Headlines. NHK digital shows 11.5dB on 4m solid with 17K LNB (**Waipu Cable TV, NZ**). NHK reads 2% points higher on my bar-graph (58) than on PAS2 (**Mathews, NZ**). "Analogue tests here are close to P5 on 3m" (**STR Ltd, Hong Kong**). First 3.8 and 5m PAS8-2 dishes have arrived in New Zealand; dishes for Papua New Guinea have been upgraded from original 3.8m to 5m. "Analogue test cards P5 with 3.1m dish, but cannot find any sign of signals on vertical - is something wrong there?" (**Cook, Qld.**) "Carrier on 4166.85/983.150 Hz is IHUG NZ Internet" (**Holz, New Caledonia**). "Using Koenig APM 381 Sat Field Strength Meter, strongest PAS8 carrier here measured 77 dBuV on 3860Hz. Strongest on PAS2 was 3990Hz at 76 dBuV. I'd say

that's pretty balanced" (**Salisbury, Qld.**) "NHK on 9234 shows 75 signal level, quality 6 while from PAS2 numbers are 74 and quality 6" (**Bradley, NZ**). "California bouquet (3940/1210Hz) presently has EWTN, Adhoc and Golf Channel (CA) but FEC 7/8 was a bad choice" (**Kosmalski, NZ**). **Note:** Msym was originally 20.000, then reverted to 26.690, then 27.686. Unconfirmed rumours persist of a Ku-band ethnic service from Australia launching "sometime in last half of March"; no confirmation. FSN (Field Service Network. Merrimac, Wisconsin USA - tel ++1-608-493-2078 and fax ++1-608-493-9445) is quoting technical set-up assistance for PAS-8 replacement dishes at rate of US\$550 per day plus expenses with travel time counted as work days.

S20/96.5E: Seems to have shut down, may be moving satellite to new location? Loss of Russian channel there not well received by Russian immigrants in eastern Australia!

Remember - Solar outage late March - early April!

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AT

Sign-off

When in doubt - do nothing (but look very busy!)

Anyone who has attempted to deal with a Government agency knows well the frustration of trying to talk common sense to people who make a living talking gibberish. A case in point.

On page 1 in February we suggested the A.B.A. had done something commendable; they had recognised that spread over more than 7 million square kilometres of land, some people actually still live where off-air terrestrial TV reception is poor, or non-existent. And we were not describing *existing* RABS viewers. We further suggested that here was a golden opportunity for satellite dealers to take the Aurora project one small step beyond its present state, using it as a delivery tool to get first-time quality TV to the disadvantaged (by terrain, distance, manmade obstacles) because they can't get a watchable picture from national networks 7, 9 10 or any of their affiliates.

I think we caught the A.B.A. asleep. Dozens of readers called, faxed and sent Email to tell us they found the agency "befuddled" by the concept of allowing one home at a time to install an Aurora satellite dish to get first time network TV. Around March 1, the A.B.A. rushed out a policy statement. It reads:

"The legal position of the A.B.A. in approving or otherwise of a single site receiving licence for an Australian household (business), not being an authorised re-transmission facility, is unclear. The Authority has sought the urgent clarification and referred the matter for legal opinion. Until that opinion is forthcoming, it is not possible to provide any Government opinion on the questions raised."

The "question" was apparently too tough. "How can I get approval to put a satellite dish on my home where presently I cannot receive signals from the (local) terrestrial broadcasters (of 7, 9, 10)?" When a bureaucrat doesn't have a clue what to do, they duck and run.

Euan Moffitt operates Rural Electronics in Orange, NSW. He got on the telephone to the A.B.A. and in as nice a way as possible tried to *help* them understand what should - or could - happen here. One ABAer (Greg Cupit at 02-6256-2800) got angry at Euan's insistence that an answer be found and told him, "Don't call me again - ever - about this matter." A fine way for a bureaucrat to act. When Euan tried Greg again, he was passed off to a lady - Nilivan Vonkhorthorn - whom Euan says has not even a clue what he is on about. We suspect Greg sent persistent Euan to Nilivan fully aware that was the case.

Euan believes we all tend to be complacent, to sit back and wait for someone else to tell us what to do and how to do it. Euan thinks if we wait this opportunity out, there won't be an opportunity. So he's researched the matter and come up with two pieces of paper plus a procedure to get the A.B.A. off its rear end. The first piece (top) is a letter to be sent to each terrestrial broadcaster. The bottom piece would go, with the

(Sample letter to terrestrial TV broadcaster serving your area)

The Chief Executive Officer
(licensee of TV station, address)

Dear Sir,

I am writing to advise you that I am unable to receive a satisfactory signal from your service even though your transmission is licensed to cover this area. I have had an aerial installation contractor verify this for me using a dedicated aerial (cut to your channel) and pictures are unwatchable even with the aerial 10 metres above ground and using a low noise masthead amplifier. The test results are shown on the accompanying statutory declaration signed by the contractor and show signal levels well below those required for satisfactory reception.

My most practical means of enjoying good television reception is via the Optus Aurora Service and while I am authorised to access ABC and SBS, I am not able to view programs from the other two commercial telecasters; Imparja and Central Seven, without your written approval. I would appreciate a letter by return stating that you have no objection to my receiving these services.

Yours faithfully,

response letter from the telecasters, to the A.B.A. to get the licence required allowing Imparja or Central 7 or whichever service to be viewed at a particular location.

These are excellent first steps. But as an industry we need to make sure the A.B.A. doesn't drop the ball here. You can help. Start by calling Greg, then Nilivan. Then call Euan at 02-6361-3636 to co-ordinate your efforts. We can beat these bureaucrats but only if we wear them out. They may out number us, but we can be very persistent.

(Suggested format for declaration)

STATUTORY DECLARATION NSW OATHS ACT 1900

I, (the installing contractor
of
do hereby solemnly declare that I have been requested to install
satellite receiving equipment for use with the Optus Aurora
service for:

..... (the client)
of (address).

I also solemnly declare and affirm that the client's address is in an
area that cannot, with a normal television aerial, receive signals
from the television channels licensed to service this area. The
reception difficulty is caused by the terrain
and tests conducted with a high quality aerial 6 metres above
ground level reveal the following poor signal strengths.

CH dBuV

CH dBuV

CH dBuV

I, the installing contractor, therefore believe that the equipment
installed for the client be given access to transmissions from

.....
and I make this solemn declaration, in accordance with the Oaths
Act 1900, and subject to punishment by law provided for the
making of any wilfully false statement in any such declaration.

Declared at)
this day of)
..... 1999

before me:

JUSTICE OF THE PEACE

Print full name of J.P.

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OBSERVER REPORTING FORM - Due April 5, 1999

- NEW programming sources seen since March 1st: _____
- Changes (signal level, transponder, programming content) in pre-existing programming sources since March 1st: _____
- OTHER (including changes in your receiving system): _____

NOTE: Please use P1 - P5 code when describing signal levels and receiver IF/RF settings.

Your Name _____
Town/City _____
Make/size dish _____ LNB _____ Receiver _____
Your email address _____ if you have one!

RETURN: SatFACTS, PO Box 330, Mangonui, Far North, NZ, fax 64-9-406-1083, Email Skyking@clear.net.nz

LET US KNOW HOW YOU 'SEE' AsiaSat 3S!

Your name _____ Location _____
Antenna size _____ LNB noise temp _____ Receiver(s) _____
IF - if you could 'SEE' AsiaSat 1 at 105.5 E -
AsiaSat 3S is _____ Lower in level _____ Same level _____ Stronger in level than As1.

Use the 'P-code' to report your reception from each of the channels listed

P5 - Totally free of any noise, perfect; **P4** - Tearing on edges of vertical lines, sparklies (noise) hits on bright, saturated colours; **P3** - Moderate noise in picture, viewable without difficulty; **P2** - Very objectionable noise, can watch with difficulty; **P1** - I can tell it is there!

Vertical: 3940/1210-Zee India _____; 3980/1170-Zee TV _____; 4060/1090-Zee Cinema (Starcrypt) _____;
4100/1050-PTV 2 _____.

Horizontal: 3800/1350-Star Sports _____; 3840/1310-Channel [V] _____; 3920/1230-Phoenix Chinese _____;
3960/1190-Star World _____; 4120/1030-CCTV4 _____.

Comments: _____

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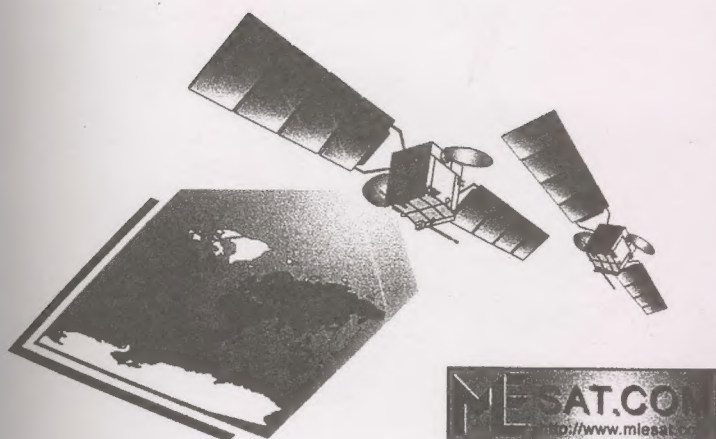
Mailing address _____

Town/city _____

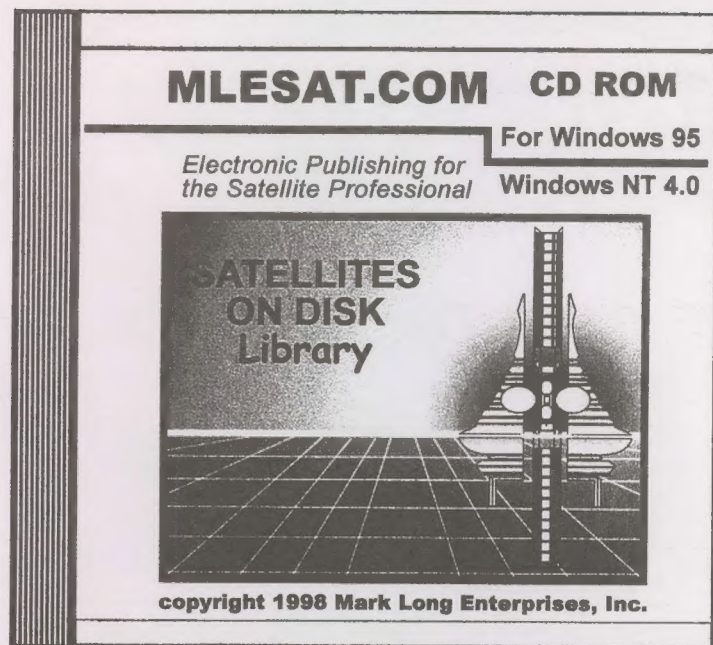


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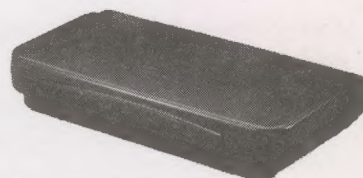


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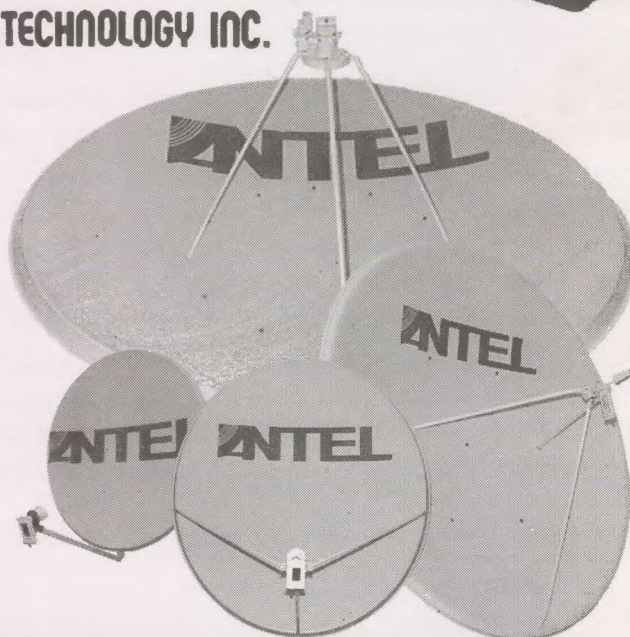
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